

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

DANIEL J. SULLIVAN)
)
 Plaintiff,)
)
 v.) Civil Action No.
) 05-CV-10310-MLW
WILLIAM K. WOODRUFF, III,) [ORAL ARGUMENT REQUESTED]
WOODRUFF FAMILY, LTD. and)
OPTICAL SWITCH CORPORATION)
 Defendants.)
)

County of Plymouth)
)
) ss.
Commonwealth of Massachusetts)

AFFIDAVIT OF DANIEL J. SULLIVAN

Daniel J. Sullivan ("Sullivan"), being duly sworn, states as follows:

1. I am the Plaintiff in the within action and submit this Affidavit in opposition to the motion of Defendants William K. Woodruff, III ("Woodruff"), Woodruff Family, Ltd. ("WFL") and Optical Switch Corporation ("OSC") (hereinafter jointly referred to as "Defendants") to dismiss the within action for lack of subject matter jurisdiction and for lack of personal jurisdiction. Unless otherwise indicated, I submit this Affidavit on personal knowledge.

2. On January 31, 2005, I filed an action in Norfolk County Superior Court, Commonwealth of Massachusetts, against Defendants seeking declaratory relief that I am not liable to any of the Defendants in connection with any of the claims Defendants have asserted

against me arising out of certain transactions involving OSC and Holographic Lithography Systems, Inc. ("HLS"). In removing this action from state court, Defendants represented to this Court that it had subject matter jurisdiction over this action, that there was complete diversity of citizenship between them and me and that there was more than \$75,000 in dispute between us and that therefore this Court had jurisdiction under what I understand to be diversity jurisdiction under 28 U.S.C. §1332. In fact, despite Defendants' motion to dismiss for lack of subject matter jurisdiction, there is complete diversity of citizenship between the parties; I reside in Massachusetts, while Woodruff resides in Texas and WFL and OSC are both Texas organizations headquartered in Texas. WFL is a family trust apparently set up by Woodruff to make investments on behalf of his family. Also, there is substantially more than \$75,000 in dispute, exclusive of interest, between the parties. Thus, as I understand, this satisfies the requirements for jurisdiction based on diversity of citizenship. I do not know why Defendants represented to this Court in their removal papers that there was subject matter jurisdiction and that they are now asserting that there is none.

3. Defendants also are asserting that this Court lacks personal jurisdiction over each of them and therefore the complaint should be dismissed. Because the factual bases of the claims being asserted against me by Defendants all primarily and substantially occurred in Massachusetts and involve substantial activities by each of the Defendants in Massachusetts, I understand that this Court does in fact have personal jurisdiction over each of the Defendants. In this Affidavit, I will recite for the Court the nature of the extensive and substantive activities of the Defendants that have occurred in Massachusetts, based on which, I am asserting personal jurisdiction over each of the Defendants. Based on the level of activity and the number of

witnesses in Massachusetts I believe it would be more efficient and more convenient to litigate this matter in Massachusetts.

BACKGROUND FACTS

4. In order to understand and appreciate the activities of Defendants which give rise to this Court's personal jurisdiction, it is necessary first to set forth my relationship with each of the Defendants and the transactions that transpired between 1998 and 2000.

5. In September of 1996, HLS was formed as a Delaware Corporation with its principal place of business located in Bedford, Massachusetts. I was the President and CEO and a member of the Board of Directors of HLS which had been formed by two employees, Doug Hobbs and James Nole. Mr. Nole is also submitting an affidavit to this Court. My primary role was running the business operations for HLS. HLS was in the business of developing a proprietary, patented lithography tool and system capable of high resolution patterning. Such patterning is useful in a variety of high technology contexts, such as the telecommunication, data storage, computer disk drive, liquid crystal display, field emission display and biomedical areas.

6. In the early part of 1998, HLS was struggling with a technical problem that had to be overcome before it could manufacture a viable product. HLS believed the problem could possibly be solved with additional time and resources, so, in an attempt to solve the problem, existing shareholders of HLS decided in March of 1998 to infuse additional capital into the company. Shortly thereafter, the technical problem was in fact resolved, and HLS was able to obtain a purchase order for its product from Hewlett Packard.

7. In late May or early June of 1998, after HLS had obtained the purchase order from Hewlett Packard, I first spoke in-depth with Gary Nabhan ("Nabhan"), my college

roommate and long time friend, about HLS. While I mentioned that HLS was interested in raising more capital, I was not soliciting Nabhan and was not even aware at the time that he was in a position to invest or direct an investment into HLS. Nabhan, however, informed me that his employer, Woodruff, who employed Nabhan through his investment bank William K. Woodruff & Co., Inc., had experience in some of the markets HLS was attempting to exploit and thus Woodruff might be interested in investing in HLS. At Nabhan's request, I sent him information from Massachusetts regarding HLS, including a proposed business plan, financial information, and information regarding past financings, including the March 1998 financing.

8. In approximately June or July of 1998, at Nabhan's request, I spoke via telephone from Massachusetts with Woodruff and Nabhan about the possibility of Woodruff making an investment in HLS in Massachusetts. I cannot recall who initiated the specific telephone call, but I recall that the call occurred at the request of Woodruff who wanted information from me about HLS. In the telephone call, I answered Woodruff's questions, including his questions about why I was not participating in the then current round of financing. I informed Woodruff that I already had put capital into HLS, had been working with the company for several years, and had never taken any salary or bonus. Accordingly, I informed him that I had sufficient money and "sweat equity" invested into HLS at the time.

9. After these initial exploratory conversations about investing in HLS, three (3) transactions occurred that underlie the claims Defendants have alleged against me, all of which primarily and substantially occurred in Massachusetts, especially with respect to the interaction between Defendants and me. The three transactions were (1) an investment of \$2,000,000 by WFL in HLS; (2) OSC's issuance of a Private Placement Memorandum ("PPM") and the raising

of approximately \$58,000,000; and (3) the acquisition of HLS by OSC. I will describe those three transactions in detail below, but in short Defendants allege fraud and conspiracy on my part in connection with all three transactions. All three of these transactions, however, to the extent they involved my dealings with Defendants, occurred exclusively in Massachusetts, and I never traveled to Texas in connection with any of the three while Defendants and their representatives made many trips to Massachusetts and engaged in extensive and protracted activities here. Despite the Massachusetts nexus, Defendants filed an action against me based on these transactions in the "District Court" in the State of Texas. Defendants, however, voluntarily "non-suited" me in that action, which I understand under Texas law and as explained in the accompanying memorandum of law means that Texas Courts treat the original action against me as though it had never been filed and never existed. Apparently for tactical reasons that are not entirely clear to me, Defendants and their counsel have repeatedly non-suited numerous and different parties in the Texas proceedings in an apparent attempt to use that process to their benefit. For example, Defendants' latest complaint is the *Fourth Amended Petition*, in the Texas "County" Court, reflecting the fact it has been amended three (3) times, and they non-suited the District Court action against me and have non-suited their claims against other individuals who have challenged personal jurisdiction in Texas. Thus, after Defendants non-suited me in the District Court case, I filed an action in Norfolk Superior Court in Massachusetts on January 31, 2005 seeking a declaration that I was not liable to any of the Defendants for any of the claims being asserted against me in Texas. Inasmuch as the original District Court action against me had been non-suited -- *i.e.*, under Texas law it was as though it had never been filed -- and no action was pending against me in Texas when I filed suit, the Massachusetts action should be

considered the first filed between Defendants and me. After I filed this action in Norfolk Superior Court, I was added on February 10, 2005 as a defendant in a different Texas case pending in the Texas "County" Court. Defendants have submitted to this Court a copy of the Fourth Amended Petition they filed in the Texas "County" Court action, without apparent explanation of why it supports their motion to dismiss. I have challenged personal jurisdiction over me by filing a special appearance in the Texas "County" Court action and a hearing is scheduled for August 5, 2005. A true and accurate copy of my Special Appearance To Present Motion Objecting To Jurisdiction is attached as Exhibit 1.

10. The facts are that not only did I file my complaint against Defendants first under the Texas procedure they invoked, I understand this Court does have personal jurisdiction over Defendants because of the level of their activities in Massachusetts in connection with the three (3) transactions about which they complain.

WFL INVESTMENT IN HLS

11. After some initial conversations with Woodruff and Nabhan regarding investment possibilities in HLS, Nabhan telephoned me in Massachusetts and told me that his employer, Woodruff, was interested in making an investment in HLS. Specifically, Nabhan advised that Woodruff was considering making a \$2,000,000 investment in HLS. On June 12, 1998, Nabhan, on behalf of Woodruff, wrote me a letter confirming Woodruff's contemplated investment in HLS. A true and accurate copy of that letter is attached as Exhibit 2. Nabhan, on behalf of Woodruff, advised that "[s]ubject to completion by . . . [Woodruff] of business and intellectual property due diligence regarding HLS . . . [Woodruff] will invest a total of \$2 million (US) into HLS...." Id.

12. In order to evaluate HLS' operations and technology, Nabhan and Woodruff sent several representatives to Massachusetts to visit HLS' offices for due diligence. Specifically, on numerous occasions in 1998, representatives of Woodruff and WFL, including Nabhan, visited HLS' facilities in Bedford, Massachusetts and questioned the technical staff at HLS and me at length concerning HLS' operations and technology. Representatives of Woodruff and WFL, including Nabhan, also reviewed, in Bedford, Massachusetts, financial information and the board minutes of HLS. Woodruff and WFL also retained Bart Showalter ("Showalter"), of Baker Botts LLP, a Texas law firm, to perform intellectual property due diligence for the proposed investment in HLS. Showalter examined, in Bedford, Massachusetts, the HLS patents and reviewed documents concerning financing that HLS had previously obtained. In addition, WFL and Woodruff sent Bart Stuck, an expert in electro-optics, to HLS in Bedford, Massachusetts to examine HLS' technology. No HLS representative, including myself, ever traveled to Texas in connection with Woodruff and/or WFL investing in HLS. My only contact with WFL was through Woodruff and Nabhan in Massachusetts.

13. On August 25, 1998, Woodruff provided Nabhan with power of attorney concerning the HLS investment. A true and accurate copy of a facsimile from Nabhan to me, dated August 25, 1998, attaching the Power of Attorney is attached as Exhibit 3. Pursuant to this Power of Attorney, Woodruff -- as general partner of WFL -- appointed Nabhan "to act in my name, place and stead and on my behalf to take all actions and do all other things on behalf of the Partnership in connection with the purchase by the Partnership for Two Million Dollars (\$2,000,000) of Series C Preferred Stock of Holographic Lithography Systems, Inc...."

14. Ultimately, on August 31, 1998, WFL agreed to invest \$2,000,000 in HLS. WFL

funded \$1,000,000 of the investment on or about August 31, 1998, and the second \$1,000,000 on or about December 31, 1998. Nabhan, as attorney-in-fact for Woodruff, executed the closing documents on behalf of Woodruff. It is my recollection that the money was wire transferred to the HLS bank account in Massachusetts. The agreement entered into, a true and accurate copy of which is attached as Exhibit 4 (the "Stock Sale Agreement"), provides that it is to be governed and interpreted under the laws of the State of Delaware, the state of incorporation for HLS.

15. In late November or early December of 1998, after the funding of the first million dollars, but before the second million dollars was funded, I had another telephone conversation from Massachusetts with Woodruff. Because of certain internal events at HLS, and because there was some uncertainty as to whether HLS would be able to deliver the product to Hewlett Packard, both Nabhan and Woodruff wanted to renegotiate the price of the shares WFL was acquiring pursuant to the Stock Sale Agreement. It is my recollection that Woodruff initiated a call to me to inquire as to the likelihood of HLS completing the product for Hewlett Packard, and in that call Woodruff suggested that WFL would only fund the remaining portion of the stock purchase if the price of the stock were renegotiated. Ultimately, I agreed, on behalf of HLS, to reduce the per share price for all of the shares acquired by WFL to approximately \$74.00 per share about \$20.00 less than originally agreed.

16. WFL then funded the second portion of the stock purchase on or about December 31, 1998, by, according to my recollection, again wire transferring funds to HLS' bank account in Massachusetts.

17. Thus, as can be seen from these facts, Defendants Woodruff and WFL engaged, personally and through their agents and representatives, in substantial, extensive and deliberate

activities in Massachusetts in connection with the first transaction on which they base their claims against me. On the other hand, there were no activities in Texas and certainly none by me.

Private Placement Memorandum (“PPM”)

18. Subsequently, in the fall of 1999, Woodruff solicited me in Massachusetts to invest in OSC, of which Woodruff was the majority shareholder. I agreed and initially invested \$200,000 in OSC. In or around December 1999, at the personal request of Nabhan and Woodruff, I agreed to serve on OSC’s Board of Directors. Both Woodruff and I were elected to the Board on December 2, 1999. I was never involved in the day-to-day operations of OSC, however, and never visited Texas in connection with OSC until August, 2000, long after all three (3) transactions in dispute.

19. In the fall of 1999, before I became a director of OSC, it is my understanding that OSC was engaged in the process of creating a Private Placement Memorandum (“PPM”) in order to raise additional capital. I was not involved in the drafting of the PPM in any way, although I did review it in Massachusetts at the request of Nabhan who sent the PPM to me in Massachusetts in December, 1999. As part of its activities in Massachusetts, OSC retained Larry Griffin in December of 1999 to assist in the process of finalizing the PPM. Larry Griffin lived and worked in Massachusetts during the time period in question.

20. The PPM issued on December 24, 1999, and closed on March 31, 2000; it succeeded in raising approximately \$58 million dollars in capital for OSC. Of the \$58 million, *OSC solicited more than \$35 million, or approximately 60%, from individuals and entities based in Massachusetts.* Putnam Investments, headquartered in Massachusetts, invested \$20 million.

Wellington Management, also located in Massachusetts, invested \$10 million. The Tudor Fund that invested \$5 million is based out of Boston, Massachusetts. In addition, individual investors in HLS – Will Volkmann, Barry Coffman, and I, each of us a Massachusetts resident -- also invested in OSC, as did Bracebridge Young, another Massachusetts resident. I never traveled to Texas in connection with the PPM, and my only connection with the PPM was to review the document in Massachusetts at the request of OSC after it had been sent to me here. Thus, OSC in my view engaged in deliberate and significant activities in Massachusetts with me and with 60% of its investors as part of the PPM, the second of the transactions in dispute.

OSC's Acquisition of HLS

21. Also in the fall of 1999, representatives of OSC first inquired about the possibility of using the HLS lithography technology in the manufacture of its optical switch products, but the nature of the relationship or even whether a business relationship would exit between OSC and HLS had not yet been determined. At the January, 2000 HLS Shareholder meeting, OSC, through Nabhan, first expressed an interest in exploring the possibility of acquiring HLS. A true and accurate copy of the minutes is attached as Exhibit 5. This interest was reflected in the Supplemental PPM issued on March 24, 2000.

22. The acquisition of HLS by OSC was a matter of great concern to the HLS employees who had been very involved in the development of the technology at HLS and who strongly believed that HLS was viable as an independent company. OSC had expressed to me through Nabhan and Woodruff that OSC wanted to control who had access to HLS' technology and that for that reason an acquisition of HLS represented a strategic business decision for OSC. Ultimately, the shareholders of HLS agreed to the sale, and OSC acquired the assets of HLS for

shares in OSC.

23. During this time period, specifically from December 1999 through May 2000, the OSC Board of Directors consisted of four individuals: Nabhan, Woodruff, Don Navarro ("Navarro") and me. OSC held a board meeting on April 11, 2000, to discuss OSC's potential acquisition of HLS. I attended the meeting by phone from Massachusetts. A true and accurate copy of the minutes of that meeting and of the resolutions adopted is attached hereto as Exhibit 6. As reflected in the minutes, the OSC Board discussed the conflicts raised by the potential transaction with HLS because Nabhan was a director of HLS, I was an officer and director of HLS, and Woodruff (through entities he controlled) was a major shareholder (owning approximately 12% of the stock) of HLS. To address this issue, OSC appointed a special committee of the Board (the "Special Committee"), consisting of the one disinterested director, Navarro, to evaluate the transaction. The Special Committee was also authorized to engage any advisors needed to determine the fairness of the acquisition to OSC and to its shareholders not affiliated with HLS.

24. The Special Committee engaged Wasserstein Perella, a well known and respected New York City investment banking firm, and Baker & Botts, LLP, a well known and respected Texas law firm, to review and make recommendations regarding the fairness and advisability of the acquisition of HLS. Both Wasserstein Perella and Baker & Botts LLP, at the request of OSC, sent representatives to Massachusetts to conduct due diligence in association with the acquisition. Wasserstein Perella, after conducting due diligence in Massachusetts, prepared a fairness opinion about the potential acquisition of HLS on behalf of the Special Committee. A true and accurate copy of the Wasserstein Perella fairness opinion is attached as Exhibit 7. As

reflected in its opinion, Wasserstein Perella opined that the transaction from a financial point of view was fair to OSC.

25. Representatives of OSC frequently traveled to Massachusetts to conduct due diligence and met with me in my office in Bedford, Massachusetts. I, or others at HLS at my direction, provided all of the information requested by OSC representatives in Bedford. In my capacity as an officer and director of HLS, I negotiated with representatives of OSC and performed all such negotiations in Massachusetts. I personally met with Robert Gardner, OSC's Director of Product Development and Engineering, and Gary Nabhan, OSC's Chief Executive Officer, in Bedford, MA to discuss HLS' and OSC's technology. I never traveled to Texas in connection with the acquisition or any other matter during the time period in which OSC explored the possibility of working with or acquiring HLS through the eventual acquisition of HLS.

26. On May 18, 2000, the OSC Board held another meeting to discuss the proposed transaction. I again participated by telephone from Massachusetts. The Special Committee voted in favor of the transaction and recommended that the OSC Board approve the transaction. A true and accurate copy of the minutes of that meeting and of the resolutions adopted is attached as Exhibit 8.

27. Based on the recommendation of the Special Committee, the Board of OSC approved the acquisition of HLS on May 18, 2000, and, on or around May 19, 2000, OSC and HLS entered into an Asset Purchase Agreement. A true and accurate copy of the cover and signature page to the Asset Purchase Agreement is attached as Exhibit 9. Pursuant to the Agreement, OSC acquired all of the assets of HLS in Massachusetts in exchange for convertible

preferred OSC stock.

28. After this acquisition, HLS was no longer an independent company, and the business of HLS became the business of OSC in Massachusetts and was conducted as the Microphotonics Group of OSC. After the acquisition, I had no further involvement with the day-to-day operations of HLS; I had never had any involvement with the day-to-day operations of OSC. I never traveled to Texas in connection with any of the three (3) transactions involved or in connection with the Defendants at any time prior to the acquisition of HLS by OSC.

29. After the acquisition of HLS by OSC on or around May 19, 2000, OSC maintained an office in Bedford, Massachusetts, maintained a registered agent in Boston, Massachusetts, and conducted business in Massachusetts. True and accurate copies of the OSC annual reports on file with the Secretary of the Commonwealth of Massachusetts for the years 2000 and 2001 are attached as Exhibit 10.

30. Eventually, in December of 2001, Woodruff took over operations at OSC and became Chairman, President, and Chief Executive Officer and removed me from the Board of Directors of OSC. I was not involved with OSC thereafter, but based on the accompanying affidavit of James Nole, I understand that in the time period following my departure, OSC shut down most, if not all, of its Texas operations and placed its focus on the Bedford operations. As Nole states, after the acquisition OSC maintained operations in Massachusetts, and Bedford became the center of the OSC operations. I understand Woodruff as CEO of OSC traveled to Bedford often and when he was not in Massachusetts he still ran the OSC operations in Bedford. After OSC's acquisition of HLS, it is my understanding that the operations in Bedford grew from approximately 7 employees to approximately 40 employees. James Nole, a former employee in

the Bedford operations, recounts what occurred during this period in his affidavit to which I respectfully refer the Court.

31. In short, Defendants through their agents and representatives, engaged in deliberate, extensive and significant activities in Massachusetts in connection with the acquisition of HLS by OSC.

DEFENDANTS HAD SUBSTANTIAL AND CONTINUING CONDUCT AND CONTACT WITH MASSACHUSETTS IN CONNECTION WITH ALL THREE EVENTS

32. As I have described above, Defendants clearly were involved in Massachusetts activities in connection with all three transactions at issue, while I had no activities in Texas until after the OSC acquisition of HLS. Defendants, among other activities, invested in HLS, sought out Massachusetts investors for the PPM, regularly visited Massachusetts, made corporate filings with the Secretary of the Commonwealth, paid taxes in Massachusetts, acquired HLS in Bedford and focused their operations in Massachusetts after their Texas operations had been virtually shut down. As set forth in the accompanying memorandum of law, is my understanding that such substantial and continuing activities are sufficient to establish that as a matter of law this Court has personal jurisdiction over each of the Defendants in this action. Similarly, the level of activity in Massachusetts in connection with the three (3) transactions, demonstrates that the bulk of the witnesses are in Massachusetts, including the investors at Putnam, Wellington, and Tudor, as well as the HLS former employees.

33. In addition, Defendants have not submitted an affidavit or any verified document suggesting in any way that they have not had conduct with Massachusetts in connection with the underlying events. Rather, Defendants submitted to this Court only the Fourth Amended Petition

which is an unverified document and a mishmash of allegations and contentions which in no way establishes that Defendants were not engaged in activities in Massachusetts in connection with the underlying events that are the subject of their claims against me and of my corresponding claims for declaratory relief.

CONCLUSION

34. In sum, the transactions at issue occurred primarily and substantially in the Commonwealth of Massachusetts and each of the Defendants deliberately, extensively and substantively carried out these transactions in Massachusetts. Thus, I believe that Defendants are within the personal jurisdiction of this Court and their motion to dismiss should in all respects be denied.

SIGNED UNDER THE PAINS AND PENALTIES OF PERJURY THIS 1st DAY OF JULY.



Daniel J. Sullivan

EXHIBIT

1

3/29/05

CAUSE NO. CC-04-13245-C

FILED
CYNTHIA FIGUEROA CALHOUN
CLERK DALLAS COUNTY TEXAS

2005 MAR 29 PM 3:19
DALLAS COUNTY AT LAW

BY DEPUTY

OSC SHAREHOLDER LITIGATION
TRUST, OPTICAL SWITCH CORPORATION,
AND WILLIAM K. WOODRUFF, III,
INDIVIDUALLY, AND ON BEHALF OF
WOODRUFF FAMILY LIMITED,

Plaintiffs,

v.

HOLOGRAPHIC LITHOGRAPHY
SYSTEMS, INC., GARY P. NABHAN,
DANIEL J. SULLIVAN, BAKER BOTTS,
L.L.P., CYNTHIA DOW, ROBERT GIORDANO,
WILLIAM MCCARTHY, BARRY COFFMAN,
WILL VOLKMANN,

Defendants.

IN THE COUNTY COURT

AT-LAW NO. 3

DALLAS COUNTY, TEXAS

**DEFENDANT DANIEL J. SULLIVAN'S SPECIAL APPEARANCE
TO PRESENT MOTION OBJECTING TO JURISDICTION**

Pursuant to Texas Rule of Civil Procedure 120a, and solely for the purposes of contesting personal jurisdiction, Defendant Daniel J. Sullivan ("Sullivan") files this Special Appearance To Present Motion Objecting to Jurisdiction ("Special Appearance"), objecting to the jurisdiction of the Court over the person and property of Sullivan and states:

1. This Special Appearance is made to the entire proceeding as set forth in the Third Amended Petition ("Petition") filed by Plaintiffs.
2. This Special Appearance is filed prior to any other plea, pleading, or motion submitted herein by Sullivan.
3. This Court does not have jurisdiction over the person or property of Sullivan for the reason that Sullivan is not amenable to process issued by the State of Texas. In further

played no role in its deliberations.

g. Sullivan did not draft or prepare any portion of the Private Placement Memorandum ("PPM") referenced in the Petition, nor did he utilize the PPM to solicit investors on behalf of OSC.

h. Sullivan in his individual capacity did not engage in acts or conduct directed towards Texas in connection with the acquisition, nor did he enter into any agreements or understandings with any one in connection with HLS, OSC or the acquisition to accomplish an unlawful purpose or to accomplish a lawful purpose by unlawful means.

II.

PRAYER

Sullivan requests that after hearing, the Court grant this special appearance and dismiss the entire proceeding as to Sullivan for want of jurisdiction.

Respectfully submitted,

FIGARI & DAVENPORT, L.L.P.

By:



Timothy A. Daniels
State Bar No. 05375190
Raymond E. Walker
State Bar No. 24037663

3400 Bank of America Plaza
901 Main Street
Dallas, Texas 75202
TEL: 214-939-2000
FAX: 214-939-2090

ATTORNEYS FOR DEFENDANT
DANIEL SULLIVAN

CERTIFICATE OF SERVICE

On this 21 day of March, 2005, the foregoing instrument was sent by certified mail, return receipt requested, to the following:

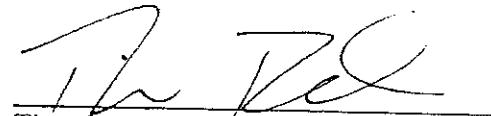
Samuel L. Boyd
Boyd & Associates
600 University Tower, LB48
6440 North Central Expressway
Dallas, Texas 75206

Ryan C. Wirtz
Jackson Walker, LLP
901 Main Street, Suite 6000
Dallas, Texas 75202-3797

George Bramblett
Haynes & Boone
901 Main Street, Suite 3100
Dallas, Texas 75202-3789

Stephen Wilson
Locke Liddell & Sapp, LLP
2200 Ross Avenue, Suite 2200
Dallas, Texas 75201

John Volney
Lynn Tillotson & Pinker
750 North St. Paul St., Suite 1400
Dallas, Texas 75201

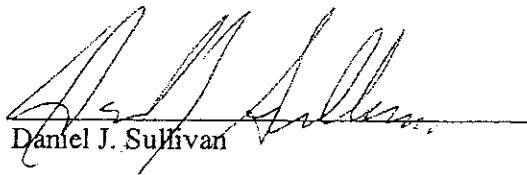


Timothy A. Daniels

VERIFICATION

COMMONWEALTH OF MASSACHUSETTS §
§
COUNTY OF _____ §

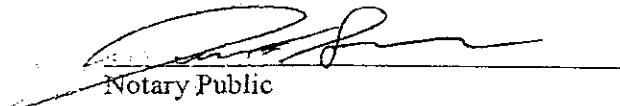
Before me, the undersigned Notary Public, on this day personally appeared Daniel J. Sullivan, and after being duly sworn stated under oath that he is one of the named Defendants in this cause; that he has read the Special Appearance to Present Motion Objecting to Jurisdiction; and that all of the factual statements contained therein are within his personal knowledge and are true and correct.



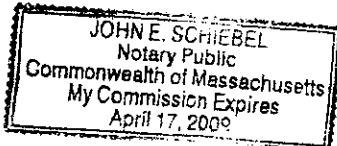
Daniel J. Sullivan

Subscribed and sworn to before me

This 28th day of March, 2005



Notary Public



EXHIBIT

2

**WILLIAM K. WOODRUFF & COMPANY
INCORPORATED**

June 12, 1998

Daniel J. Sullivan
President and Chief Executive Officer
Holographic Lithography Systems, Inc.
Three Preston Court
Bedford, Ma. 01730

Re: Woodruff Investment in HLS

Dear Dan,

Pursuant to our telephone conversation today, this letter confirms our understanding regarding the contemplated investment in Holographic Lithography Systems, Inc. ("HLS" or "the Company") by one or more of the Woodruff entities ("WKW").

Subject to completion by WKW of business and intellectual property due diligence regarding HLS and the industries in which HLS competes, and further subject to the execution of closing documents which are mutually acceptable as to form and substance, WKW and HLS agree to the following:

- 1) WKW will invest a total of \$2 million (US) into HLS in exchange for 10% post-money equity ownership of the Company. Such equity ownership shall be evidenced by convertible preferred stock with the same rights and protections as those owned by the existing convertible preferred stock investors. It is understood that, as of this date, there are a total of 171,429 common and preferred shares issued and outstanding. WKW's investment will entitle it to 19,047 convertible preferred shares, such that, after the investment, the total number of issued and outstanding shares will equal 190,476.
- 2) The anticipated closing date for this transaction is August 1, 1998. On that date, the first \$1 million installment will be due. The second \$1 million installment will be due on December 1, 1998.
- 3) WKW will be entitled to one seat on the board of directors of HLS. The WKW board representative will also serve on the compensation committee.

7557 KAMBLER ROAD • SUITE 112 • DALLAS, TEXAS 75231 • (214) 987-2990 • FAX (214) 986-3617

EXHIBIT

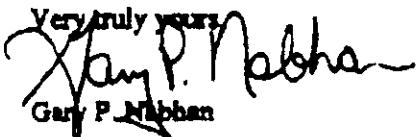
109

00/16/1998 10:30 AM

2

- 4) WKW shall be entitled to make the aforementioned investment whether or not HLS requires the capital.

Very truly yours,


Gary P. McPhan

Accepted for the Company by


Daniel J. Sullivan
President and Chief Executive Officer

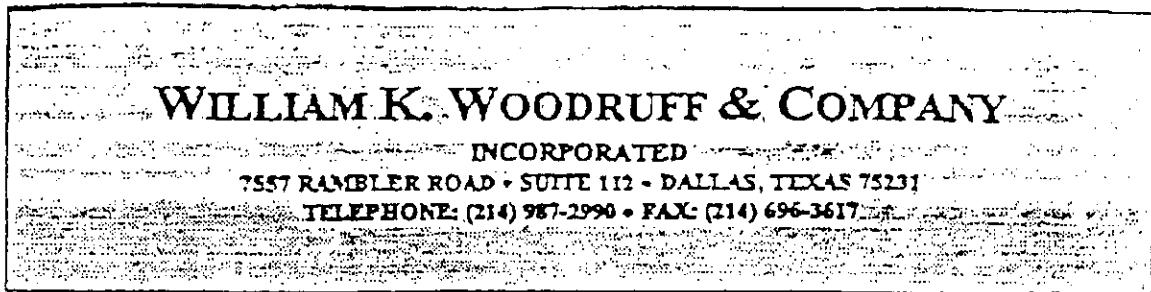
Date

6/13/98

2

EXHIBIT

3



PLEASE DELIVER THE FOLLOWING PAGES IMMEDIATELY TO:

NAME: Dan Sullivan

COMPANY: HLS

FAX NUMBER: 781-276-4062

TOTAL NUMBER OF PAGES INCLUDING COVER LETTER: 4

DATE: 8/25/98

SENT BY: Gary P. Nabber

Dan:

Here is the power of attorney.

G.P.N.

EXHIBIT

115

PLEASE NOTIFY US IMMEDIATELY IF NOT PROPERLY RECEIVED BY CALLING 214/987-2990

The information contained in this transmission is confidential and is intended only for the use of the individual or entity named above. The information may also be legally privileged. This transmission is sent in trust, for the sole purpose of delivery to the intended recipient. If you have received this transmission in error, you are hereby notified that any use, dissemination, distribution or reproduction of this transmission is strictly prohibited. If you are not the intended recipient, please immediately notify us by telephone at 214/987-2990 to arrange for the return of the transmission and any copies thereof to us at our expense. Thank you.

WKN 022R2

WOODRUFF 5466

AUG. 25, 1998 10:31AM THOMPSON & KNIGHT 214 969 1751

NO. 852 P.2/4

D
LIMITED POWER OF ATTORNEY

THE STATE OF TEXAS §
§
COUNTY OF DALLAS §

KNOW ALL MEN BY THESE PRESENTS:

That I, WILLIAM K. WOODRUFF, as general partner of WOODRUFF FAMILY, LTD., a Texas limited partnership (the "Partnership"), acting pursuant to the authority granted to me under the terms of the Limited Partnership Agreement of the Partnership, do hereby appoint GARY P. NABHAN, of Dallas, Texas, as my true and lawful attorney in fact, with full power of substitution, to act in my name, place and stead and on my behalf to take all actions and do all other things on behalf of the Partnership in connection with the purchase by the Partnership for Two Million Dollars (\$2,000,000) of Series C Preferred Stock of Holographic Lithography Systems, Inc. (the "Company"), including, but not limited to the following:

- (i) to negotiate and execute the Series C Preferred Stock Purchase Agreement and Amendment to Series A and Series B Preferred Stock Purchase Agreements;
- (ii) to negotiate and execute the Second Amended and Restated Stockholders Agreement;
- (iii) to negotiate and execute the Second Amended and Restated Certificate of Incorporation of the Company;
- (iv) execute any other document, agreement or certificate and take any action consistent with the foregoing, for the purposes of facilitating the transactions contemplated by the transactions described herein; and
- (v) serve on the Board of Directors of the Company on behalf of the Partnership.

In connection therewith, my said attorney in fact shall have authority to execute any and all agreements and instruments, make any endorsements and acknowledgments that may be necessary to accept the transfer shares of capital stock on the books and records of the Company on behalf of the Partnership or do anything else which the general partner of the Partnership might reasonably do concerning said property.

My attorney in fact may exercise this power of attorney at any time and from time to time. I grant to my said attorney in fact full power and authority to do and perform all and every act and thing whatsoever requisite, necessary and proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as I might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that my said attorney in fact, or my attorney's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted.

WKW 02283

WOODRUFF 5467

AUG. 25, 1998 10:32AM

THOMPSON & KNIGHT 214 969 1751

NO. 852 P. 3/4

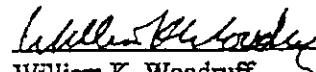
This power of attorney shall not terminate upon my physical or mental disability or incapacity.

My death shall not revoke or terminate this agency as to the attorney in fact, agent or other person who, without actual knowledge of my death, acts in good faith under this power of attorney. Any action so taken, unless otherwise invalid or unenforceable, shall be binding upon me and my heirs, devisees, and personal representatives. An affidavit, executed by the attorney in fact or agent stating that he or she does not have, at the time of doing an act pursuant to this power of attorney, actual knowledge of the revocation or termination of this power of attorney, is, in the absence of fraud, conclusive proof of the nonrevocation or nontermination of the power at that time.

I hereby ratify and confirm all that my attorney in fact, or my attorney's successors, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers granted herein. I hereby indemnify and hold harmless any third party who accepts and acts under this power of attorney against any and all claims, demands, losses, damages, actions and causes of actions, including expenses, costs and reasonable attorneys' fees, which such third party may incur in connection with his reliance on this power of attorney.

The rights, powers and authority of my said attorney in fact to exercise any and all of the rights and powers herein granted shall commence and be in full force and effect from the date of execution of this power of attorney.

IN WITNESS WHEREOF, I hereunto set my hand this 25th day of August, 1998.

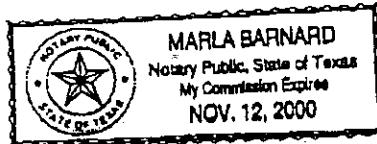

William K. Woodruff

AUG. 25. 1998 10:32AM THOMPSON & KNIGHT 214 969 1751

NO. 852 P. 4/4

THE STATE OF TEXAS
§
COUNTY OF DALLAS §

This document was acknowledged before me on this 25th day of August 1998, by William K. Woodruff.



(SEAL)

Marla Barnard
Notary Public, State of Texas
Marla Barnard
[Typed or Printed Name of Notary]

EXHIBIT

4

**SERIES C PREFERRED STOCK PURCHASE AGREEMENT
AND AMENDMENT TO SERIES A AND SERIES B
PREFERRED STOCK PURCHASE AGREEMENTS**

This Series C Preferred Stock Purchase Agreement (this "Agreement") dated as of August 31, 1998, is by and among Holographic Lithography Systems, Inc. (the "Company"), a Delaware corporation; Woodruff Family, Ltd. (together with its successors and permitted assigns, the "New Purchaser"), a Texas limited partnership; and solely for certain limited purposes, as referred to in the following paragraph, the other parties listed in the signature pages hereto.

This Agreement also amends the Series A Preferred Stock Purchase Agreement (the "Series A Agreement"), dated as of September 11, 1996, and the Series B Preferred Stock Purchase Agreement (the "Series B Agreement") dated as of March 31, 1998, each by and among the Company and the "Purchaser" parties thereto (collectively, the "Previous Purchasers").

Capitalized terms used and not otherwise defined upon first usage herein are defined in Section 10.1 of this Agreement.

1. Sale And Purchase of New Purchased Securities.

1.1. Agreement to Sell and Purchase New Purchased Securities. The Company hereby agrees to issue and sell to the New Purchaser, and, subject to all of the terms and conditions hereof and in reliance on the representations and warranties set forth herein, the New Purchaser agrees to purchase from the Company, 20,672 shares of Series C Preferred Stock (the "New Purchased Securities," which term as used in this Agreement also includes any securities issued or issuable in respect of any of the original New Purchased Securities in connection with any stock dividend, stock split, combination or division of shares, recapitalization, merger, consolidation, reorganization, or the like, and any securities into which any of the original New Purchased Securities are converted, and any securities for which any of the original New Purchased Securities are exchanged).

1.2. Purchase Price. The aggregate purchase price for the New Purchased Securities will be \$2,000,000, payable as follows: (i) on the Closing Date (as hereinafter defined), the New Purchaser will deliver to the Company cash in the amount of \$1,000,000 by check or wire transfer, and (ii) on December 1, 1998, the New Purchaser will deliver to the Company cash in the amount of \$1,000,000 by check or wire transfer. Until this aggregate purchase price has been paid in full, each stock certificate representing New Purchased Securities will bear an appropriate legend indicating the total amount of consideration payable for the New Purchased Securities and the amount thereof that has been paid.

- 2 -

1.3. Closing. The closing of the purchase and sale of the New Purchased Securities (the "Closing") will take place at the offices of Bingham Dana LLP, 150 Federal Street, Boston, Massachusetts 02110, concurrently with the execution and delivery of this Agreement, or at such other time, date, and place as the Company and the New Purchaser may agree (the date on which the Closing actually occurs, the "Closing Date").

1.4. Use of Proceeds.

(a) The Company agrees that the proceeds from the sale of the New Purchased Securities hereunder will be used only for product development (including without limitation participation in joint ventures and similar alliances), working capital, and general corporate purposes.

(b) The Company further agrees that it will not use any part of the proceeds from the sale of the New Purchased Securities to purchase or carry any "margin security" or "margin stock" (as such terms are defined in any regulation, rule, or interpretation of the Board of Governors of the Federal Reserve System).

1.5. Closing Deliveries. At the Closing:

(a) The Company will deliver to the New Purchaser one or more stock certificates representing the New Purchased Securities, free and clear of all Liens, and registered in the New Purchaser's name (or if requested by the New Purchaser, its nominee) in the Company's records.

(b) The New Purchaser will pay \$1,000,000 to the Company by check or wire transfer.

(c) The parties will execute and deliver the Stockholders' Agreement.

(d) Each of Douglas A. Hobbs and Daniel J. Sullivan, Jr. will execute and deliver a letter agreement substantially in the form of the attached Exhibit A.

(e) The Company will deliver to the New Purchaser a copy of the Stock Restriction Agreements entered into by the Company with each of James P. Nole and Bruce MacLeod, which agreements will be substantially in the form of the attached Exhibit B.

(f) The Company will deliver to the New Purchaser a written legal opinion of Bingham Dana LLP, addressed to the New Purchaser and substantially in the form of the attached Exhibit C.

- 3 -

1.6. Participation Rights Not Applicable. Each of the Previous Purchasers hereby consents to the issuance, purchase, and sale of the New Purchased Securities hereunder, and agrees that the "Participation Rights" set forth in Section 4 of the Series B Agreement will not apply thereto. Each of the Previous Purchasers also hereby acknowledges and agrees that such Participation Rights and the Participation Rights formerly set forth in Section 4 of the Series A Agreement did not apply to any previous issuance of securities by the Company, and waives and relinquishes and rights and remedies that such Previous Purchaser might have by reason of any past failure by the Company to comply with such provisions.

2. Representations and Warranties of the Company.

In order to induce the New Purchaser to enter into this Agreement and to purchase the New Purchased Securities, the Company hereby represents and warrants to the New Purchaser as follows, subject in each case to such exceptions as are set forth in the attached Disclosure Schedule.

2.1. Organization and Authority. The Company is a corporation duly organized, validly existing, and in good standing under the laws of the State of Delaware. The Company has all requisite corporate power and authority to own or lease and operate its properties and to carry on its business as now conducted and as proposed to be conducted in the near term.

2.2. Corporate Power; Authorization; Enforceability; Non-Contravention; Etc. The Company has all requisite power and full legal right to execute and deliver this Agreement and the Other Agreements and to perform all of its respective obligations hereunder and thereunder in accordance with the respective terms hereof and thereof.

This Agreement, such Other Agreements, and the transactions contemplated hereby and thereby have been duly approved and authorized by all requisite corporate action on the part of the Company, and this Agreement has been duly executed and delivered by the Company and constitutes, and each of the Other Agreements, when executed and delivered by the Company at the Closing will constitute, a legal, valid, and binding obligation of the Company, enforceable against the Company in accordance with its respective terms.

The execution, delivery, and performance by the Company of this Agreement and the Other Agreements in accordance with their respective terms, and the consummation by the Company of the transactions contemplated hereby and thereby, will not result (with or without the giving of notice or the lapse of time or both) in any conflict, violation, breach, or default, or the creation of any Lien, or the termination, acceleration, vesting, or modification of any right or

- 4 -

obligation, under or in respect of (x) the charter documents or by-laws of the Company, (y) any judgment, decree, order, statute, rule, or regulation binding on or applicable to the Company, or (z) any agreement or instrument to which the Company is a party or by which it or any of its respective assets is or are bound.

2.3. Subsidiaries. The Company does not have any Subsidiaries or own any legal and/or beneficial interests in any other person.

2.4. Foreign Qualification. The Company is duly qualified to do business and in good standing as a foreign corporation in Massachusetts, which is the only jurisdiction in which the character of its properties owned or leased or the nature of its activities makes such qualification necessary, other than any jurisdictions in which the failure so to qualify or be in good standing would not, either in any case or in the aggregate, have a Material Adverse Effect.

2.5. Capitalization.

(a) Immediately after the Closing, giving effect to the sale and purchase of the New Purchased Securities hereunder, the authorized and outstanding capital stock of the Company will be as set forth in Section 2.5 of the Disclosure Schedule, and all such outstanding shares of capital stock will be owned of record, and to the best of the Company's knowledge, beneficially, by the persons and in the amounts there indicated. All such outstanding shares of capital stock, including without limitation the New Purchased Securities, will be duly authorized, validly issued, fully paid, and nonassessable, and free and clear of Liens.

(b) Except as indicated in Section 2.5 of the Disclosure Schedule, the Company does not have, is not bound by, and has no obligation to grant or enter into, any (i) outstanding subscriptions, options, warrants, calls, commitments, or agreements of any character calling for it to issue, deliver, or sell, or cause to be issued, delivered, or sold, any shares of its capital stock or any other equity security, or any securities described in the following clause, or (ii) securities convertible into, exchangeable for, or representing the right to subscribe for, purchase, or otherwise acquire any shares of its capital stock or any other equity security.

(c) Except as provided in this Agreement, the Company's charter, as amended to date (including without limitation by the Amended Charter), and the Stockholders' Agreement, respectively, the Company (i) has no outstanding obligations, contractual or otherwise, to repurchase, redeem, or otherwise acquire any shares of capital stock or other equity securities of the Company, (ii) is not a party to or bound by, and has no knowledge of, any agreement or instrument relating to the voting of any of its securities, and (iii) is not a party

- 5 -

to or bound by any agreement or instrument under which any person has the right to require it to effect, or to include any securities held by such person in, any registration under the Securities Act.

(d) The Company has reserved and will continue at all time to reserve, solely for the purpose of issuance upon conversion of shares of Series C Preferred Stock, a number of shares of Common Stock sufficient to effect the conversion of all outstanding shares of Series C Preferred Stock.

2.6. Lawful Issuance. All of the outstanding shares of the Company's capital stock and all other securities of the Company were offered, issued, and sold, and the New Purchased Securities have been offered and at the Closing will be issued and sold, in compliance with (i) all applicable preemptive or similar rights of all persons, and (ii) all applicable provisions of the Securities Act and the rules and regulations thereunder, and all applicable state securities laws and the rules and regulations thereunder. No person has any valid right to rescind any purchase of any shares of capital stock or other securities of the Company.

2.7. Financial Statements. The Company has delivered to the Purchaser copies of its unaudited balance sheets as of December 31, 1996, December 31, 1997, and July 31, 1998 (the last of these, the "Most Recent Balance Sheet"), respectively, and its related unaudited statements of income for the periods beginning September 6, 1996, January 1, 1997, and January 1, 1998, respectively, and ended on such respective dates. Each of such financial statements was prepared substantially in accordance with GAAP applied on a basis consistent with any prior periods. Each of such balance sheets fairly presents the financial condition of the Company as of its date, and each of such statements of income and cash flows, respectively, fairly presents the results of operations or cash flows, as the case may be, of the Company for the period covered thereby, subject to the absence of footnote disclosure and to the effect of normal end-of-period adjustments, the effect of which did not and will not have a Material Adverse Effect.

As of the date of each balance sheet referred to in this Section 2.7, the Company had no liabilities required by GAAP to be reflected on the face of a balance sheet (as opposed to in footnote disclosures) and which was not so reflected in such balance sheet.

2.8. Absence of Certain Changes. Since the date of the Most Recent Balance Sheet, there have not been any changes in the business, assets, financial condition, or operating results of the Company that, either individually or in the aggregate, have had a Material Adverse Effect.

2.9. Business Plan. The business plan of the Company dated as of June 1998, previously delivered by the Company to the New Purchaser, was

- 6 -

prepared by the Company in good faith and fairly presents in all material respects the business and prospects of the Company as of its date. Any forecasts or projections of future financial results contained in such business plan were prepared by the Company in good faith based upon assumptions that the Company believed, as of the date of such business plan, and still does believe, as of the date hereof, to be reasonable (it being acknowledged by the New Purchaser that such forecasts and projections may not be achieved in the event of changes in the facts and circumstance upon which such forecasts, projections, and assumptions are based and which could not reasonably have been foreseen as of the date of such business plan or as of the date hereof).

2.10. Proprietary Information.

(a) Section 2.10 of the Disclosure Schedule lists all patents, patent applications, trademarks, trade names, service marks, logos, copyrights, and licenses owned or licensed as licensee by the Company or used in or necessary to its businesses as now being conducted (collectively, and together with any technology, know-how, trade secrets, processes, formulas, and techniques used in or necessary to the Company's business, "Proprietary Information"). The Company owns, or is licensed or otherwise has the full and unrestricted exclusive right to use, without the payment of royalties or other further consideration, all Proprietary Information, and no other intellectual property rights, privileges, licenses, contracts, or other agreements, instruments, or evidences of interests are necessary to or used in the conduct of its business.

(b) In any instance where the Company's rights to Proprietary Information arise under a license or other agreement (other than for "off-the-shelf" software programs that have not been customized for its use), this is indicated in Section 2.10 of the Disclosure Schedule and such rights are licensed exclusively to it except as indicated in Section 2.10 of the Disclosure Schedule. No other person has an interest in or right or license to use any of the Proprietary Information. To the best of the Company's knowledge, none of the Proprietary Information is being infringed by others, or is subject to any outstanding order, decree, judgment, or stipulation. No litigation (or other proceedings in or before any court or other governmental, adjudicatory, arbitral, or administrative body) relating to the Proprietary Information is pending, or to the best of the Company's knowledge, threatened, nor to the best of the Company's knowledge, is there any basis for any such litigation or proceeding. The Company maintains reasonable security measures for the preservation of the secrecy and proprietary nature of its Proprietary Information.

(c) To the best of the Company's knowledge: (i) neither the Company nor any of its officers, employees, or consultants has infringed or made unlawful use of, or is infringing or making unlawful use of, any proprietary or confidential information of any person, including without limitation any former employer of

any past or present officer, employee, or consultant of the Company; and (ii) the activities of the Company's officers, employees, and consultants in connection with their employment or contractual relationship with the Company do not violate any agreements or arrangements with any former employer or any other person. No litigation (or other proceedings in or before any court or other governmental, adjudicatory, arbitral, or administrative body) charging the Company with infringement or unlawful use of any patent, trademark, copyright, or other proprietary right is pending, or to the best of its knowledge, threatened; nor is there any basis for any such litigation or proceeding.

(d) To the best of the Company's knowledge, no officer, director, employee, or consultant of the Company is presently obligated under or bound by any agreement or instrument, or any judgment, decree, or order of any court of administrative agency, that (i) conflicts or may conflict with his or her agreements and obligations to use his or her best efforts to promote the interests of the Company, (ii) conflicts or may conflict with the business or operations of the Company as presently conducted or as proposed to be conducted in the short term, or (iii) that restricts or may restrict the use or disclosure of any information that may be useful to the Company.

2.11. Insurance. Section 2.11 of the Disclosure Schedule lists the policies of theft, fire, liability, worker's compensation, life, property and casualty, directors' and officers', and other insurance owned or held by the Company and the basis on which such policies provide coverage (i.e., an occurrence or claims-made basis). Such policies of insurance are maintained with financially sound and reputable insurance companies, funds, or underwriters, are of the kinds and cover such risks, and are in such amounts and with such deductibles and exclusions, as are consistent with prudent business practice. All such policies are in full force and effect, are sufficient for compliance in all material respects by the Company with all requirements of law and of all agreements to which the Company is party, and provide that they will remain in full force and effect through the respective dates set forth in Section 2.11 of the Disclosure Schedule, and will not terminate or lapse or otherwise be affected in any way by reason of the transactions contemplated hereby.

2.12. Governmental and Other Third-Party Consents. No consent, approval, or authorization of, or registration, designation, declaration, or filing with, any governmental authority, federal or other, or any other person is required on the part of the Company in connection with its execution, delivery, or performance of this Agreement or the Other Agreements or the consummation by the Company of the transactions contemplated hereby or thereby, or the continued conduct of the present business of the Company after the Closing Date (other than filings, e.g., SEC Form D, pursuant to relevant federal and state securities laws, which may be made after the Closing Date).

2.13. Brokers. No finder, broker, agent, or other intermediary has acted for or on behalf of the Company in connection with the negotiation or consummation of the transactions contemplated hereby, and no fee will be payable by the Company to any such person in connection with such transactions.

2.14. Compliance with Securities Laws. Based in part upon the representations of the New Purchaser contained herein, the offer, issuance, and delivery of the New Purchased Securities as contemplated by this Agreement are exempt from the registration requirements of the Securities Act, and are exempt from registration or qualification under applicable states' securities laws. Neither the Company nor anyone acting on its behalf will hereafter offer to sell, solicit offers to buy, or sell any securities of the Company so as to subject the offer, issuance, and sale of the New Purchased Securities to the registration requirements of the Securities Act.

2.15. Disclosure. No representation or warranty by the Company in this Agreement, the Disclosure Schedule, or any of the Other Agreements contains or will contain any untrue statement of a material fact or omits or will omit to state a material fact required to be stated herein or therein or necessary to make the statements contained herein or therein not false or misleading. To the best of the Company's knowledge, there is no fact or circumstance relating specifically to the business or condition of the Company that could reasonably be expected to result in a Material Adverse Effect and that is not disclosed in the Disclosure Schedule.

3. Representations and Warranties of the New Purchaser.

The New Purchaser hereby represents and warrants to the Company as follows:

The New Purchaser is an "accredited investor" as defined in Rule 501(a) promulgated under the Securities Act and has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of the transactions contemplated under this Agreement.

The New Purchaser's financial condition is such that it is able to bear all economic risks of investment in the New Purchased Securities, including a complete loss of its investment.

The Company has provided the New Purchaser with adequate access to financial and other information concerning the Company as requested and the New Purchaser has had the opportunity to ask questions of and receive answers from the Company concerning the transactions contemplated by this Agreement

- 9 -

and to obtain therefrom any additional information necessary to make an informed decision regarding an investment in the Company.

The New Purchaser is acquiring the New Purchased Securities solely for investment purposes, with no present intention of distributing or reselling any of the New Purchased Securities or any interest therein. The New Purchaser is aware that the New Purchased Securities will not be registered under the Securities Act, and that neither the New Purchased Securities nor any interest therein may be sold, pledged, or otherwise transferred unless the New Purchased Securities are registered under the Securities Act or qualify for an exemption under the Securities Act.

This Agreement has been duly authorized by all necessary partnership action on the New Purchaser's part, has been validly executed by the New Purchaser, and is the New Purchaser's legal, valid, and binding obligation, enforceable against the New Purchaser in accordance with its terms.

4. Participation Rights. Section 4 ("Participation Rights") of each of the Series A Agreement and the Series B Agreement is terminated and deleted from such agreement. For purposes of this Section 4, the term "Purchased Securities" includes both the New Purchased Securities and the securities constituting "Purchased Securities" under the Series A Agreement and the Series B Agreement, respectively.

4.1. Participation Rights. Subject to the exclusions set forth in Section 4.3 of this Agreement, if at any time after the Closing, the Company authorizes the offer, issuance, or sale to any person (the "Offeree") of any shares of Common Stock or any other securities (whether as newly issued shares or other securities or from the Company's treasury), the Company will first offer to sell to each then holder of Purchased Securities a portion (such holder's "Portion") of such shares or securities equal to the quotient, expressed as a percentage, of (A) the number of shares of Common Stock held by such holder or issuable upon conversion of outstanding shares of Preferred Stock held by such holder, divided by (B) the aggregate number of then outstanding shares of Common Stock (calculated on a fully diluted basis assuming the full exercise, conversion, and exchange of all then outstanding Derivative Securities).

4.2. Procedure. Each holder of Purchased Securities will be entitled (but not obligated) to purchase all or part of such holder's Portion at the same price and on the same terms as such stock or securities are to be offered to the Offeree. Each such holder may exercise such purchase rights within 30 days after receipt of written notice from the Company describing in reasonable detail the stock or securities to be offered to the Offeree, the purchase price thereof, the payment terms, and such holder's percentage allotment. If any such holder fails in whole or in part to exercise the purchase rights hereunder within such

30-day period (other than by reason of the Company's failure to comply with the provisions of this Section 4), then the other holders of Purchased Securities will have the right to acquire such Portion (which right may be exercised by any such holder by indicating in such holder's notice to the Company of its exercise of purchase rights hereunder such holder's desire to acquire additional securities, or otherwise). If oversubscribed for, any such Portion not purchased by the holder initially entitled thereto will be allocated among the other holders of Purchased Securities desiring to acquire such Portion *pro rata* in proportion to the numbers of shares of Common Stock held by each such other holder (including shares of Common Stock issuable upon conversion of shares of Preferred Stock held by such other holders). The Company may sell so much, and only so much, of any Portion as to which no holders of Purchased Securities, having been offered the right to purchase such Portion in accordance with all of the provisions of this Section 4, have exercised such purchase rights, to the Offeree at the same price and on the same terms as those offered to such holder, *provided*, that in the event that the whole of such Portion of such securities is not sold to the Offeree within 60 days following the lapse of the 30-day exercise period provided to the holders of Purchased Securities, such unsold securities will once again be subject to the purchase rights hereunder. In the event that shares of Common Stock or Derivative Securities are authorized to be issued and sold by the Company for services, property, or other non-cash consideration, each holder of Purchased Securities will be allowed to participate in such issue and sale by substituting cash in the amount of the fair market value, per share, of such non-cash consideration.

4.3. Excluded Transactions. The prohibitions and rights provided in this Section 4 will not apply to (i) shares of Common Stock issued by the Company pursuant to stock dividends, stock splits, recapitalizations, and other *pro rata* issuances of securities to then holders of the Company's capital stock; (ii) shares of Common Stock issued upon conversion of shares of Preferred Stock; (iii) the issuance to officers, directors, employees, or consultants of the Company of shares, or options to purchase shares, up to an aggregate of 28,306 shares of Common Stock (such aggregate number of shares to be subject to proportionate adjustment in the event of any stock dividend, stock split, combination of shares, reorganization, recapitalization, reclassification or other similar event occurring after the date of this Agreement), and the issuance of shares of Common Stock upon exercise of such options, in each case *provided* that such options are issued with the prior approval of the Board of Directors of the Company and the Compensation Committee of such board; (iv) shares of the Company's capital stock issued in consideration of the acquisition of any other company or business or any interest therein, if such acquisition has been approved by the Company's Board of Directors, including the affirmative vote or consent of at least one of the directors elected by the separate class vote of the holders of Preferred Stock; or (v) the issuance to Douglas S. Hobbs of up to 9,000

- 11 -

shares of Common Stock (or options to acquire such shares), and the issuance to Daniel J. Sullivan, Jr., of up to 2,813 shares of Common Stock (or options to acquire such shares) upon the achievement of certain financial goals of the Company, as outlined in a memorandum dated February 18, 1998, from Mr. Sullivan to the Company's shareholders (such numbers of shares each to be subject to proportionate adjustment in the event of any stock dividend, stock split, combination of shares, reorganization, recapitalization, reclassification or other similar event occurring after the date of this Agreement).

4.4. Termination of Rights. The prohibitions and rights provided in this Section 4 will not apply to securities issued in connection with, and will terminate upon the closing of, a Qualified Public Offering.

5. Covenants. Section 5 ("Covenants") of each of the Series A Agreement and the Series B Agreement is terminated and deleted from such agreement. For purposes of this Section 5, the term "Purchased Securities" includes both the New Purchased Securities and the securities constituting "Purchased Securities" under the Series A Agreement and the Series B Agreement, respectively; and the term "Purchasers" includes both the New Purchaser and those persons who are "Purchasers" under the Series A Agreement and the Series B Agreement, respectively.

The Company covenants that for so long as any Purchased Securities are outstanding, the Company will comply (and should it at any time have any Subsidiaries, cause each of such Subsidiaries to comply) with each of the following covenants. Except as required by applicable law, each Purchaser and each person representing or acting on behalf of such Purchaser will hold in confidence all confidential information of the Company provided or made available to such Purchaser or such person pursuant to this Section 5 until such time as such information has been publicly disclosed other than as a consequence of any breach by such Purchaser or such person of its confidentiality obligations hereunder.

5.1. Distributions. The Company will not (i) make, declare, or pay dividends on any of its capital stock or make any other distribution of assets in respect of its capital stock, (ii) purchase, redeem or otherwise acquire any shares of its capital stock, or (iii) repurchase shares of Common Stock, in each case except in accordance with the Amended Charter.

5.2. Budgets. The Company will deliver to each holder of Purchased Securities, in each case as soon as practical after preparation thereof, but in no event later than 30 days prior to the beginning of each fiscal year, preliminary, and in no event later than 30 days after the beginning of each fiscal year, final, *pro forma* financial projections and budgets (which will contain projected

- 12 -

balance sheets and statements of income, retained earnings, and cash flows (including capital expenditures) and month-by-month projections and budgets) for the Company for next fiscal year.

5.3. Investments. The Company will not have outstanding, or acquire or commit itself to acquire or hold, any investment except (a) investments in marketable direct obligations issued or guaranteed by the United States of America that mature within one year from the date of acquisition thereof or which are subject to a repurchase agreement, exercisable within 90 days from the date of acquisition of such agreement, with any commercial bank or trust company incorporated under the laws of the United States of America or any State thereof or the District of Columbia, (b) investments in commercial paper maturing within one year from the date of acquisition thereof and having, at the date of acquisition thereof, the highest rating obtainable from Moody's Investors Service, Inc. or Standard & Poor's Corporation, (c) investments in bankers' acceptances eligible for rediscounit under Federal Reserve Board requirements accepted by any commercial bank or trust company referred to in clause (a) hereof, (d) investments in deposits or certificates of deposit maturing within one year from the date of acquisition thereof issued by any commercial bank or trust company referred to in clause (a) hereof and having capital and surplus of at least \$100,000,000, (e) investments in certificates of deposit issued by banks organized under the laws of any other jurisdiction, each having combined capital and surplus of not less than \$100,000,000, and (f) investments by the Company in any Subsidiary made with the prior approval of the Board of Directors, including the affirmative vote or consent of at least one of the directors elected by the separate class vote of the holders of Preferred Stock, and if such Subsidiary will not be wholly owned by the Company after such investment, the affirmative vote or consent of a director designated for election as such by the Majority Series C Holders.

5.4. Annual Statements. As soon as available, and in any event within 90 days after the close of each fiscal year (commencing with the fiscal year ending on December 31, 1998), the Company will deliver to each Purchaser a balance sheet and statements of income, retained earnings, and cash flows, audited by an independent public accounting firm selected by the Company and reasonably acceptable to the Purchasers, showing the financial condition of the Company as of the close of such fiscal year and the results of its operations during such fiscal year. Each of the financial statements delivered hereunder will be certified by such accounting firm without material qualification to have been prepared in accordance with GAAP consistently applied.

5.5. Quarterly and Monthly Statements.

(a) As soon as available, and in any event within 30 days after the end of each of the first three fiscal quarters of each fiscal year (commencing with the

fiscal quarter ending September 30, 1998), the Company will deliver to each Purchaser an unaudited balance sheet and statements of income, retained earnings, and cash flows of the Company as of the end of and for such fiscal quarter, certified by the chief financial officer of the Company to be true and correct and (except as noted) to have been prepared in accordance with GAAP consistently applied, subject to the absence of footnotes and to adjustments consisting of normal year-end accruals, the effect of which, both individually and in the aggregate, is not material.

(b) As soon as available and in any event within 30 days after the end of each calendar month (commencing with the first month beginning after the Closing Date), the Company will deliver to each Purchaser unaudited balance sheets and statements of income and cash flows of the Company as of the end of each such month, as well as summary information as to backlog and bookings as of such month-end, certified by the treasurer or chief financial officer of the Company to be true and correct and (except as noted) to have been prepared in accordance with GAAP consistently applied, subject to the absence of footnotes and to adjustments consisting of normal year-end accruals, the effect of which, both individually and in the aggregate, is not material.

5.6 Officers' Certificates. If requested by any of the Purchasers, then together with delivery of financial statements of the Company pursuant to Section 5.5 above, the Company will deliver to each Purchaser a certificate of the chief financial officer or Treasurer of the Company stating that (except as noted) such statements have been prepared in accordance with GAAP consistently applied and present fairly the financial position of the Company as of the dates specified and the results of its operations and cash flows with respect to the periods specified (in the case of interim financial statements, subject to the absence of footnotes and to adjustments consisting of normal year-end accruals, the effect of which, both individually and in the aggregate, is not material).

5.7. Other Financial Information. The Company will further deliver to each Purchaser, as soon as practical after preparation thereof (and in the case of clause (a) below, in any event not later than 10 days prior to the beginning of the fiscal period to which such financial analysis or forecast relates), complete and correct copies of (a) all quarterly or annual budgetary analyses or forecasts of the Company not referred to in Section 5.2 hereof, to the extent and in the form customarily prepared by management for its own internal use or the use of the Board of Directors of the Company, and (b) all other financial and other reports prepared for the use of the Board of Directors and/or any bank or other lender to the Company (and not otherwise required to be delivered hereunder).

5.8. Other Information; Inspection Rights. From time to time upon the request of any Purchaser or any representative of any Purchaser, the

Company will furnish to any authorized officer or representative of such person such information regarding the business, affairs, finances, and prospects of the Company that is prepared by the Company in the ordinary course of business or can be readily prepared from materials prepared by the Company in the ordinary course of business, and will make available to such officer or representative such officers, directors, key employees, and accountants of the Company, as such officer or representative may reasonably request. Each such officer or representative will have the right during normal business hours to examine the books and records of the Company, to make copies, notes, and abstracts therefrom, to discuss the Company's affairs with the officers, directors, key employees, and accountants of the Company, and to make or cause an independent examination and/or audit (at such Purchaser's expense) of the books and records of the Company.

5.9. Rights to Attend Meetings, Etc.

(a) The Company will call and hold a meeting of its Board of Directors at least once each fiscal quarter, and will reimburse the travel (but not lodging) expenses of each director incurred in connection with such director's attendance at each meeting of the Company's Board of Directors and/or any committee thereof. The Company will give each Purchaser at least five business days' prior written notice of the time, place, and subject matter of each quarterly meeting, at least two business days' prior written notice of any other proposed meeting, and reasonable prior notice of any action by written consent of the Board of Directors of the Company, such notice in all cases to include true and complete copies of all documents furnished to any director in connection with such meeting or consent. The Company will permit each Purchaser or one of his or its authorized representatives to attend each such meeting.

(b) Within 90 days after the financial statements required by Section 5.4 hereof are delivered or required to be delivered to Purchasers and on not less than 14 days' prior written notice, the Company will hold an annual meeting of its stockholders at which the principal executive, financial, and operations officers of the Company will present a review of, and will discuss in reasonable detail with those in attendance, the general affairs, management, financial condition, results of operations, and business prospects of the Company. The Company will give each Purchaser at least 14 days' advance written notice of such meeting and will allow each Purchaser or one of his or its authorized representatives to attend each such meeting.

5.10. Notices of Litigation, Etc. The Company will promptly give notice to each Purchaser of any litigation or any administrative proceeding to which the Company may hereafter become a party, excepting only those in which the only relief sought is money damages in an amount not exceeding \$10,000 in any one instance, or \$25,000 in the aggregate with respect to all such

litigations or proceedings. The Company will promptly furnish to each Purchaser copies of all correspondence, notices, pleadings, reports, and other documents in connection with any such litigation or proceeding of which it is required to give notice hereunder or that may be received from any governmental agency or other person asserting a claim or potential claim against the Company. Promptly after the receipt thereof, the Company will provide copies of any reports (including management letters and reports and letters with respect to the adequacy of the Company's internal accounting controls) submitted by independent accountants with respect to the Company.

5.11. Records and Accounts. The Company will keep true and accurate records and books of account in which full, true, and correct entries will be made so as to permit the preparation of financial statements in accordance with GAAP and maintain adequate accounts and reserves in accordance with good accounting practice for all taxes (including income taxes), all depreciation, depletion, obsolescence, and amortization of its properties, all contingencies, and all other reserves.

5.12. Corporate Existence; Maintenance of Properties. The Company will preserve and keep in full force and effect its corporate existence, rights, and franchises. The Company will not engage in any business other than as presently conducted by it and businesses reasonably ancillary thereto, except with the prior approval of the Board of Directors of the Company, including the affirmative vote or consent of at least one director elected by the separate class vote of the Majority Series A/B Holders and the Majority Series C Holders, respectively. The Company will maintain all of its properties used or useful in the conduct of its business in good condition, repair, and working order, reasonable wear-and-tear and depreciation excepted, and cause to be made all necessary repairs, renewals, replacements, betterments, and improvements thereof, all as in the judgment of the Company may be necessary so that the business carried on in connection therewith may be properly and advantageously conducted at all times; *provided, however,* that nothing in this Section 5.12 will prevent the Company from discontinuing the operation and maintenance of any of such properties if such discontinuance is, in the judgment of the Company, desirable in the conduct of its business and does not in the aggregate materially adversely affect the business of the Company.

5.13. Insurance; Key Man Insurance. The Company will maintain with financially sound and reputable insurance companies, funds, or underwriters insurance of the kinds, covering the risks and in the relative proportionate amounts usually carried by reasonable and prudent companies conducting businesses similar to that of the Company. Subject to availability on commercially reasonable terms, as determined by the Company's Board of Directors (including the affirmative vote or consent of at least one director

elected by the separate class vote of the holders of Preferred Stock), the Company will maintain its existing key-man life insurance coverage on the lives of Douglas S. Hobbs and Daniel J. Sullivan, Jr., respectively, in each case for so long as such person continues to be employed by the Company; *provided*, that such insurance will be subject to review by the Company's Board of Directors from time to time and may be decreased or eliminated with the prior approval of the Board of Directors of the Company, including the affirmative vote or consent of at least one director elected by the separate class vote of the holders of Preferred Stock.

5.14. Taxes. The Company will pay and discharge, or cause to be paid and discharged, before delinquent, all Taxes, assessments, and other governmental charges imposed upon the Company or any of the properties, sales, or activities of the Company, or any part thereof, or upon the income or profits therefrom, as well as all claims for labor, materials, or supplies, which, if unpaid might by law give rise to a Lien upon any of its properties; *provided, however*, that any such Tax, assessment, charge, levy, or claim need not be paid if the validity or amount thereof is being contested in good faith by appropriate proceedings and if the Company has set aside on its books adequate reserves with respect thereto.

5.15. Compliance with Laws, Contracts, Licenses, and Permits. The Company will comply in all material respects with (a) its charter documents and by-laws, (b) all judgments, decrees, orders, statutes, rules, and regulations binding on or applicable to the Company or its business or properties, and (c) any agreement or instrument to which it is a party or by which it or any of its properties are subject (including without limitation the Other Agreements). If at any time any authorization, consent, approval, permit, or license from any officer, agency, or instrumentality of any government becomes necessary or required in order that the Company may fulfill any of its obligations hereunder, the Company will promptly take or cause to be taken all necessary steps within its power to obtain such authorization, consent, approval, permit, or license and will promptly furnish the Purchasers with evidence thereof.

5.16. Employee Benefit Plans. The Company will take all actions necessary to maintain, fund, and administer its employee benefit plans in accordance with applicable federal, state, and local law.

5.17. Transactions with Affiliates. The Company will not engage in any transaction with any Affiliate on terms more favorable to the Affiliate than would have been obtainable by an unaffiliated person on an arms'-length basis in the ordinary course of business. Without limiting the foregoing sentence, the Company will not without the affirmative vote or consent of at least one director elected by the separate class vote of the Majority Series A/B Holders and the

- 17 -

Majority Series C Holders, respectively, amend, waive any valuable right under, enter into any agreement in conflict with, or terminate any agreement with any officer or key employee of the Company, including without limitation any agreement relating to employment, confidentiality, ownership or assignment of any intellectual property to the Company, or non-competition with the Company.

5.18. Compensation of Officers and Senior Management. The compensation of all officers and senior management of the Company will be as determined from time to time by the Board of Directors and the Compensation Committee thereof.

6. Registration Rights. Section 6 ("Registration Rights") of each of the Series A Agreement and the Series B Agreement is terminated and deleted from such agreement. For purposes of this Section 6, the term "Purchased Securities" includes both the New Purchased Securities and the securities constituting "Purchased Securities" under the Series A Agreement and the Series B Agreement, respectively; and the term "Purchasers" includes both the New Purchaser and those persons who are "Purchasers" under the Series A Agreement and the Series B Agreement, respectively.

6.1. Definitions. As used in this Section 6:

Commission means the Securities and Exchange Commission.

Holders means the Purchasers and all persons to whom any Registrable Securities are transferred in accordance with the provisions hereof, and "Holder" means any one of the Holders. Unless the context otherwise requires, for all purposes of this Section 6, a Holder will be deemed to hold, at any particular time, all shares of Common Stock issued or issuable upon conversion of shares of Preferred Stock held of record by such Holder at such time.

Registered and **registration** (regardless of whether capitalized) refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act and the declaration or ordering by the Commission of effectiveness of such registration statement.

Registrable Securities means, at any particular time, all shares of Common Stock issued or issuable in respect of the Purchased Securities. Securities will cease to be Registrable Securities when (i) they have been sold pursuant to an effective registration statement under the Securities Act, or distributed to the public through a broker, dealer or market maker pursuant to Rule 144 under the Securities Act, or any other exemption from the registration requirements of the Securities Act under which the transferee receives securities that are not "restricted securities" within the meaning of that term as defined in

- 18 -

Rule 144(a)(3), or (ii) when they may be resold under Rule 144(k) (or other similar exemption from registration) without volume limitation.

"Underwriters' Maximum Number" means, with respect to an underwritten registration, that number of securities to which such registration should be limited, in the written opinion of the managing underwriters of such registration in the light of marketing factors.

6.2. Demand Registrations.

(a) Request for Demand Registration.

(i) Subject to the limitations set forth in the following paragraphs of this Section 6.2, the Holders of not less than a majority of all Registrable Securities at any time outstanding may at any time give to the Company a written request for the registration (a "Demand Registration") by the Company under the Securities Act of all or any part of the Registrable Securities held by such Holders. Within five business days after the receipt by the Company of any such written request, the Company will give written notice of such request to all Holders of Registrable Securities.

(ii) Subject to the limitations set forth in the following paragraphs of this Section 6.2, after the receipt of a written request for a Demand Registration, (A) the Company will be obligated to include in such Demand Registration all Registrable Securities with respect to which the Company receives from Holders of Registrable Securities the written requests of such Holders for inclusion in such Demand Registration, within 20 days after the date on which the Company gives to all Holders a written notice of registration request pursuant to Section 6.2(a)(i) of this Agreement, and (B) the Company will use its best efforts in good faith to effect promptly the registration of all such Registrable Securities. All written requests made by Holders of Registrable Securities pursuant to this Section 6.2(a)(ii) will specify the number of Registrable Securities to be registered and will also specify the intended method of disposition thereof. Such method of disposition will, in any case, be an underwritten offering unless the Holders of at least a majority of the Registrable Securities to be included in such Demand Registration request otherwise.

(b) Limitations on Demand Registrations.

(i) The Company will not be obligated to effect more than two Demand Registrations pursuant to Section 6.2(a) of this Agreement.

- 19 -

(ii) The Company will not be obligated to effect any Demand Registration of any Registrable Securities pursuant to Section 6.2(a) hereof prior to the lapse of twelve months after the date of this Agreement.

(iii) Any registration initiated by Holders of Registrable Securities as a Demand Registration pursuant to Section 6.2(a) hereof will not count as a Demand Registration for purposes of Section 6.2(b)(i) of this Agreement (A) if any shares are included in such registration for the account of the Company and/or stockholders other than Holders, or (ii) if such registration does not become effective or at least 75% of all Registrable Securities held by Holders and requested by them to be included in such registration are not actually sold pursuant to such registration.

(iv) The Company will not be obligated to effect the Demand Registration of any Registrable Securities pursuant to Section 6.2(a) hereof during the period commencing on the date falling 90 days prior to the Company's estimated date of filing of, and ending on the date 180 days following the effective date of, any registration statement pertaining to any registration initiated by the Company, for the account of the Company and/or stockholders other than Holders (other than with respect to securities registered in solely in connection with acquisitions, employee benefit plans, and the like), if the written request of Holders for such Demand Registration pursuant to Section 6.2(a) hereof is received by the Company after the Company has given to all Holders of Registrable Securities a written notice stating that the Company is commencing an underwritten registration initiated by the Company; *provided, however,* that the Company will use its best efforts in good faith to cause any such registration statement to be filed and to become effective as expeditiously as is reasonably possible.

(v) The Company will not be obligated to effect any Demand Registration of Registrable Securities for any 120-day period following receipt of any written request for registration, if in the good faith judgment of the Board of Directors of the Company, including the affirmative vote or consent of at least one director elected by the separate class vote of the holders of Preferred Stock, the filing of any registration statement during such 120-day period would adversely affect a material proposed or pending acquisition, merger, or similar corporate event to which the Company is or expects to be party.

(c) **Priority in Demand Registrations.** If the managing underwriters in any Demand Registration advise the Company in writing that the number of securities proposed to be included in such registration that the number of securities to be included in such registration exceeds the Underwriters' Maximum Number, then: (i) the Company will be obligated to include in such registration that number of Registrable Securities requested by

- 20 -

Holders to be included in such registration as does not exceed the Underwriters' Maximum Number, and such number of Registrable Securities will be allocated *pro rata* among such Holders on the basis of the number of Registrable Securities held by each such Holder; (ii) if the Underwriters' Maximum Number exceeds the number of Registrable Securities requested by Holders to be included in such registration, then the Company will be entitled to include in such registration that number of securities as have been requested by the Company to be included in such registration for the account of the Company and that is not greater than such excess; and (iii) if the Underwriters' Maximum Number exceeds the sum of the number of Registrable Securities that the Company is obligated under clause (i) above to include in such Demand Registration plus the number of securities that the Company proposes to offer and sell for its own account in such registration, then the Company may include in such registration that number of other securities as other persons may have requested be included in such registration and that is not greater than such excess. Neither the Company nor any of its other security holders will be entitled to include any securities in any underwritten Demand Registration unless the Company or such security holders (as the case may be) agree in writing to sell such securities on the same terms and conditions as apply to the Registrable Securities held by Holders to be included in such Demand Registration.

(d) **Selection of Underwriters.** If any Demand Registration is an underwritten offering, the investment bankers and managing underwriters in such registration will be selected by the consent of Holders holding at least a majority of the Registrable Securities held by Holders to be included in such Demand Registration, subject to the approval of the Company, which will not be unreasonably withheld or delayed. If the Company reasonably disapproves of such investment bankers or underwriters, such Holders will use their best efforts to select another investment banker or underwriter, and will continue such process until such investment bankers or underwriters have been selected.

6.3. Piggyback Registrations.

(a) Rights to Piggyback.

(i) If (and on each occasion that) the Company proposes to register any of its securities under the Securities Act, either for the Company's own account or for the account of any of its security holders (each such registration not withdrawn or abandoned prior to the effective date thereof, a "Piggyback Registration"), the Company will give written notice to each of the Holders of Registrable Securities of such proposal not later than the earlier to occur of (A) the tenth day following the receipt by the Company of notice of exercise of any registration rights by any persons, and (B) 30 days prior to the

anticipated filing date of such Piggyback Registration. Notwithstanding the foregoing, the Company will not be obligated to give notice to Holders as to or to include any Registrable Securities in any registration on Form S-8 or similar limited-purpose form of registration statement effected solely to implement an employee benefit plan or any registration on Form S-4 or similar limited-purpose form of registration statement effected solely to implement an acquisition or any exchange offer pursuant to Rule 144A.

(ii) Subject to the provisions contained in paragraphs (b) and (c) of this Section 6.3 and in the last sentence of this clause (ii): (A) the Company will be obligated to include in each Piggyback Registration all Registrable Securities with respect to which the Company receives, within 20 days after the date on which the Company gives written notice of such Piggyback Registration to Holders of Registrable Securities pursuant to Section 6.3(a)(i) hereof, the written requests of such Holders for inclusion in such Piggyback Registration, and (B) the Company will use its best efforts in good faith to effect promptly the registration of all such Registrable Securities. Holders will be permitted to withdraw all or any part of their Registrable Securities from any Piggyback Registration at any time prior to the effective date of such Piggyback Registration.

(b) Priority in Piggyback Registrations. If a Piggyback Registration is an underwritten registration, and the managing underwriters thereof give written advice to the Company of an Underwriters' Maximum Number, then: (i) the Company will be obligated to include in such registration that number of Registrable Securities that have been requested by Holders and which is not more than one-half of the Underwriters' Maximum Number, and such number of Registrable Securities will be allocated *pro rata* among such Holders on the basis of the number of Registrable Securities held by each such Holder; (ii) the Company will be entitled to include in such registration that number of securities that the Company proposes to offer and sell for its own account in such registration and which does not exceed the difference between the Underwriters' Maximum Number and the number of Registrable Securities that the Company is required under clause (i) above to include in such registration; and (iii) if the Holders have been permitted to include in such registration all shares that they have requested so to include and the Underwriters' Maximum Number exceeds the sum of the number of Registrable Securities that the Company has been requested to include in such registration for the account of Holders and the number of securities that the Company proposes to offer and sell for its own account in such registration, then the Company may include in such registration that number of other securities that persons other than Holders have requested be included in such registration and which is not greater than such excess.

- 22 -

(c) Selection of Underwriters. In any Piggyback Registration, the Company will (unless the Company agrees otherwise) have the right to select the investment bankers and managing underwriters in such registration, subject to the approval of the Holders, if any, including Registrable Securities in such registration, which will not be unreasonably withheld or delayed.

6.4. Lockup Agreements.

(a) Restrictions on Public Sale by Holders of Registrable Securities. Each Holder of Registrable Securities, any of whose Registrable Securities are included in any underwritten registration of the Company's securities, if the Company or the managing underwriters so request of such Holders in connection with such registration, will not, without the prior written consent of the Company or such underwriters, effect any public sale or other distribution of any equity securities of the Company, including any sale pursuant to Rule 144, during the seven days prior to, and during the 180-day period commencing on, the effective date of such underwritten registration, except in connection with such underwritten registration; *provided* that each officer and director of the Company and each other person who is also an Affiliate of the Company enters into similar agreements, and *provided, further*, that to the extent that any such officer, director, or other Affiliate of the Company is released (in whole or in part) from such lock-up agreement prior to its scheduled termination date, each Holder executing such a lock-up agreement will have a proportionate percentage of its securities released from such lock-up agreement.

(b) Restrictions on Public Sale by Company. The Company will not effect any public sale or other distribution of equity securities, or securities exercisable or exchangeable for, or convertible into, equity securities, during the period commencing on the seventh day prior to, and ending on the 180th day following, the effective date of any underwritten registration, except in connection with any such registration.

6.5. Registration Procedures. If (and on each occasion that) the Company becomes obligated to effect any registration of any Registrable Securities hereunder, the Company will use its best efforts in good faith to effect promptly the registration of such Registrable Securities under the Securities Act and to permit the public offering and sale of such Registrable Securities in accordance with the Holders' intended methods of disposition thereof, and, in connection therewith, the Company, as expeditiously as is reasonably possible, will:

(a) prepare and file with the Commission a registration statement with respect to such Registrable Securities, and use its best efforts in good faith to

cause such registration statement to become and remain effective as provided in this Agreement;

(b) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectus included in such registration statement as may be necessary or advisable to comply in all material respects with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement or as may be necessary to keep such registration statement effective and current, but for no longer than nine months subsequent to the effective date of such registration;

(c) furnish to each seller of Registrable Securities such number of copies of such registration statement, each amendment and supplement thereto (in each case including all exhibits thereto), the prospectus included in such registration statement (including each preliminary prospectus), and such other documents as any such seller may reasonably request in order to facilitate the disposition of the Registrable Securities held by such seller;

(d) enter into such customary agreements and take all such other action in connection therewith as any Holder may reasonably request in order to expedite or facilitate the disposition of such Registrable Securities;

(e) use its best efforts in good faith (i) to list the Registrable Securities to be registered in such registration on each securities exchange or quotation system on which similar securities of the Company are then listed, and (ii) to register and qualify the Registrable Securities covered by such registration statement under such securities or Blue Sky laws of such jurisdictions as any Holder may reasonably request and do any and all such other acts and things as may be reasonably necessary or advisable to enable such seller to consummate the disposition in such jurisdictions of the Registrable Securities held by such seller; *provided, however,* that the Company will not be required in connection with such Blue Sky registration or qualification to qualify to do business or file a general consent to service of process in any such jurisdiction; and

(f) furnish to each prospective seller a signed counterpart, addressed to such prospective seller, of (i) an opinion of counsel for the Company, dated the effective date of the registration statement, and (ii) a "comfort" letter signed by the independent public accountants who have certified the Company's financial statements included in the registration statement, covering substantially the same matters with respect to the registration statement (and the prospectus included therein) and (in the case of the comfort letter, with respect to events subsequent to the date of the financial statements), as are customarily covered (at the time of such registration) in opinions of issuer's counsel and in comfort

letters delivered to the underwriters in underwritten public offerings of securities.

6.6. Cooperation by Prospective Sellers, Etc.

(a) Each prospective seller of Registrable Securities will furnish to the Company in writing such information as the Company may reasonably require from such seller, and otherwise reasonably cooperate with the Company in connection with any registration statement with respect to such Registrable Securities.

(b) The failure of any prospective seller of Registrable Securities to furnish any information or documents in accordance with any provision contained in this Section 6 will not affect the obligations of the Company under this Section 6 to any remaining sellers who furnish such information and documents unless in the reasonable opinion of counsel to the Company or the underwriters, such failure impairs or may impair the viability of the offering or the legality of the registration statement or the underlying offering.

(c) Each Holder of Registrable Securities included in any registration statement will not (until further notice) effect sales thereof after receipt of telegraphic or written notice from the Company to such Holder to suspend sales to permit the Company to correct or update such registration statement or prospectus; but the obligations of the Company with respect to maintaining any registration statement current and effective will be extended by a period of days equal to the aggregate period any such suspensions are in effect.

(d) At the end of any period during which the Company is obligated to keep any registration statement current and effective as provided by Section 6.5 hereof (and any extensions thereof required by the preceding paragraph (c) of this Section 6.6), the Holders of Registrable Securities included in such registration statement will discontinue sales of shares pursuant to such registration statement upon notice from the Company to such Holders of its intention to remove from registration the shares covered by such registration statement which remain unsold, and such Holders will notify the Company of the number of shares registered that remain unsold promptly after receipt of such notice from the Company.

6.7. Registration Expenses.

(a) The Company will be responsible for and will pay all costs and expenses incurred or sustained in connection with or arising out of each registration pursuant to this Section 6, including, without limitation, all registration and filing fees, fees and expenses of compliance with securities or Blue Sky laws (including reasonable fees and disbursements of counsel for the

- 25 -

underwriters in connection with the Blue Sky qualification of Registrable Securities), printing expenses, messenger, telephone, and delivery expenses, fees and disbursements of counsel for the Company, reasonable fees and disbursements of one counsel representing the Holders, fees and disbursements of all independent certified public accountants (including the expenses relating to the preparation and delivery of any special audit or comfort letters required by or incident to such registration), and fees and disbursements of underwriters (excluding discounts and commissions), the reasonable fees and expenses of any special experts retained by the Company on its own initiative or at the request of the managing underwriters in connection with such registration, and fees and expenses of all (if any) other persons retained by the Company (all such costs and expenses, collectively, "Registration Expenses"). The Company will, in any case, pay its internal expenses (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit, and the fees and expenses incurred in connection with the listing of the securities to be registered on each securities exchange or quotation system on which similar securities of the Company are then listed.

(b) The Company will not bear the cost of nor pay for any stock transfer taxes imposed in respect of the transfer of any Registrable Securities to any purchaser thereof by any Holder of Registrable Securities in connection with any registration of Registrable Securities pursuant to this Section 6.

(c) To the extent that Registration Expenses incident to any registration are, under the terms of this Section 6, not required to be paid by the Company, each Holder of Registrable Securities included in such registration will pay all Registration Expenses that are clearly solely attributable to the registration of such Holder's Registrable Securities so included in such registration, and all other Registration Expenses not so attributable to one Holder will be borne and paid by all sellers of securities included in such registration *pro rata* in proportion to the number of securities so included by each such seller.

6.8. Indemnification.

(a) **Indemnification by Company.** The Company will indemnify each Purchaser and each Holder joining in a registration and each underwriter of the securities so registered, the officers, directors, and partners of each such person and each person who controls (within the meaning of the Securities Act) any of the foregoing, and their respective successors and assigns, against any and all Damages arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or

any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, or any violation by the Company of any rule or regulation promulgated under the Securities Act applicable to the Company and relating to any action or inaction required of the Company in connection with any such registration, qualification, or compliance; *provided, however,* that the Company will not be liable in any such case to the extent that any such Damages arise out of or are based on any untrue statement or omission based upon written information furnished to the Company in an instrument duly executed by such Purchaser, Holder, underwriter, officer, director, partner, or controlling person and stated to be specifically for use in such prospectus, offering circular, or other document.

(b) Indemnification by Each Holder. Each Holder requesting or joining in a registration will indemnify each underwriter of the securities so registered, the Company and its officers and directors and each person, if any, who controls (within the meaning of the Securities Act) any of the foregoing, and their respective successors and assigns, against any and all Damages arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular, or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statement therein not misleading, but only if and to the extent that such statement or omission was made in reliance upon written information furnished to such underwriter or the Company in an instrument duly executed by such Holder and stated to be specifically for use in such prospectus, offering circular, or other document (or related registration statement, notification, or the like) or any amendment or supplement thereto; and *provided further* that each Holder's liability with respect to any particular registration will be limited to an amount equal to the proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

(c) Indemnification Proceedings. Each party entitled to indemnification pursuant to this Section 6.8 (the "indemnified party") will give notice to the party required to provide indemnification pursuant to this Section 6.8 (the "indemnifying party") promptly after such indemnified party acquires actual knowledge of any claim as to which indemnity may be sought, and will permit the indemnifying party (at its expense) to assume the defense of any claim or any litigation resulting therefrom; *provided* that counsel for the indemnifying party, who will conduct the defense of such claim or litigation, must be acceptable to the indemnified party, and the indemnified party may participate in such defense at such party's expense; and *provided, further*, that the failure by any indemnified party to give notice as provided in this paragraph (c) will not relieve any indemnifying party of its obligations under this Section

6.8 except if and to the extent that such failure results in a failure of actual notice to the indemnifying party and such indemnifying party is actually prejudiced solely as a result of such failure to give notice. No indemnifying party, in the defense of any such claim or litigation, will, except with the consent of each indemnified party, consent to entry of any judgment or enter into any settlement that does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect to such claim or litigation. The reimbursement required by this Section 6.8 will be made by periodic payments during the course of the investigation or defense, as and when bills are received or expenses incurred, and may be conditioned upon an undertaking by the indemnified party to reimburse the indemnifying party in the event the indemnified party is finally determined by a court of competent jurisdiction not to be entitled to indemnification.

6.9. Contribution in Lieu of Indemnification. If the indemnification provided for in Section 6.8 hereof is unavailable to a party that would have been an indemnified party in respect of any Damages referred to therein, then each party that would have been an indemnifying party thereunder will, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such Damages in such proportion as is appropriate to reflect the relative fault of the indemnifying party and such indemnified party, respectively, in connection with the statements or omissions which resulted in such Damages. Relative fault will be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the indemnifying party or such indemnified party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and each Holder of Registrable Securities agree that it would not be just and equitable if contribution pursuant to this Section 6.9 were determined by *pro rata* allocation or by any other method of allocation that does not take account of the equitable considerations referred to above in this Section 6.9. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

6.10. Rule 144 Requirements; Form S-3 Registrations. From time to time after the earlier to occur of (a) the ninetieth day following the date on which there first becomes effective a registration statement filed by the Company under the Securities Act, or (b) the date on which the Company registers a class of securities under Section 12 of the Exchange Act, the Company will make every effort in good faith to take all steps necessary to ensure that the Company will be eligible to register securities on Form S-3 (or

any comparable or successor form adopted by the Commission) as soon thereafter as possible, and to make publicly available and available to the Holders, pursuant to Rule 144 of the Commission under the Securities Act, such current public information as is necessary to enable the Holders of Registrable Securities to make sales of Registrable Securities pursuant to that Rule. The Company will furnish to the Holders, upon request at any time after the undertaking of the Company in the preceding sentence first becomes effective, a written statement signed by the Company, addressed to each Holder, describing briefly the action the Company has taken or proposes to take to comply with the current public information requirements of Rule 144. Upon receipt of a certificate certifying (i) that such Holder has held such Purchased Securities for a period of not less than three (3) years (or such lesser period after which the exemption from registration pursuant to which Rule 144(k) may be available), and (ii) that such Holder has not been an affiliate (as defined in Rule 144) of the Company during the preceding three months, the Company will, at the request of any Holder of Purchased Securities, remove from the stock certificates representing such Purchased Securities any restrictive legend (or portion thereof) relating to the registration provisions of the Securities Act. After the Company qualifies for the use of Form S-3, then, subject to the provisions of Sections 6.2(b)(iii) and (v) of this Agreement, any Holder of Registrable Securities will have the right to an unlimited number of registrations on Form S-3, *provided*, that the Company will not be obligated to effect such a registration more frequently than once in any six-month period.

6.11. Participation in Underwritten Registrations. No person may participate in any underwritten registration pursuant to this Section 6 unless such person (a) agrees to sell such person's securities on the basis provided in any underwriting arrangements approved by the persons entitled, under the provisions hereof, to approve such arrangements, and (b) completes and executes all questionnaires, powers of attorney, custody agreements, indemnities, underwriting agreements, and other documents reasonably required by the terms of such underwriting arrangements. Any Holder of Registrable Securities to be included in any underwritten registration will be entitled at any time to withdraw such Registrable Securities from such registration prior to its effective date in the event that such Holder disapproves of any of the terms of the related underwriting agreement.

7. Registration and Transfer of Securities.

7.1. Transfer and Exchange of Capital Stock. The Company will maintain at its principal executive office a register in which will be entered the names and addresses of the holders of the capital stock and the particulars (including without limitation the class thereof) of the respective capital stock held by them and of all transfers of shares of capital stock or conversions of

shares of capital stock from one class to another. Upon surrender at such office of any certificate representing shares of capital stock for registration of conversion, exchange, or (subject to compliance with the applicable provisions of this Agreement, including without limitation the conditions set forth in Section 8.2 hereof) transfer, the Company will issue, at its expense, one or more new certificates, in such denomination or denominations as may be requested, for shares of such capital stock and registered as such holder may request. Any certificate representing shares of capital stock surrendered for registration of transfer will be duly endorsed, or accompanied by a written instrument of transfer duly executed by the holder of such certificate or his attorney duly authorized in writing. The Company will pay shipping and insurance charges, from and to each holder's principal office, upon any transfer, exchange, or conversion provided for in this Section 7.1.

7.2. Replacement of New Purchased Securities. In the case of any loss, theft, destruction, or mutilation of the certificate representing any Purchased Security, upon receipt of evidence thereof reasonably satisfactory to the Company, and (i) in the case of any such loss, theft, or destruction, upon delivery of an indemnity bond in such reasonable amount as the Company may determine, or (ii) in the case of any such mutilation, upon the surrender to the Company at its principal office of such mutilated certificate for cancellation, the Company will execute and deliver, in lieu thereof, new certificates of like tenor. Any old stock certificate in lieu of which any such new stock certificate has been so executed and delivered by the Company will not be deemed to be outstanding for any purpose of this Agreement or otherwise.

7.3. Reliance on Register. The Company may rely for all purposes hereunder on record ownership as shown on the register described in this Section 7 (except to the extent that such register fails to reflect a transfer of which the Company received due notice in accordance with Section 8.2 of this Agreement).

8. Restrictions on Transfer.

8.1. General Restriction. The New Purchased Securities and all securities issued in exchange therefor or upon conversion or exercise thereof (for purposes of this Section 8, "Restricted Securities"), will be transferable only upon the satisfaction of the conditions set forth in this Section 8. Any transfer or purported transfer in violation of this Section 8 will be void.

8.2. Notice of Transfer. Prior to any transfer of any Restricted Securities, the holder thereof will give written notice to the Company describing in reasonable detail the manner and terms of the proposed transfer and the identity of the proposed transferee, accompanied by (a) an opinion of Bingham Dana LLP or other counsel reasonably acceptable to the Company, addressed to

- 30 -

the Company, that such transfer may be effected without registration of such Restricted Securities under the Securities Act, and (b) the written agreement of the proposed transferee to be bound by all of the provisions hereof applicable to holders of such Restricted Securities hereunder or thereunder.

8.3. Restrictive Legends. For so long as the New Purchased Securities remain subject to the restrictions on transfer set forth in this Section 8, the certificates representing such New Purchased Securities will bear restrictive legends in substantially the following forms:

"The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended (the "Act"), and may be transferred only pursuant to an effective registration statement under the Act or in accordance with an applicable exemption from the registration requirements of the Act."

"The securities represented by this certificate are subject to certain restrictions on transfer set forth in a Series C Preferred Stock Purchase Agreement dated as of August 31, 1998, by and between the issuer of such securities and the registered holder of this certificate (or such holder's predecessor-in-interest) and certain others. A copy of such agreement is on file and may be inspected by the registered holder of this certificate at the principal executive office of the issuer."

8.4. Termination of Restrictions. The restrictions imposed by this Section 8 upon the transferability of Restricted Securities will terminate as to any particular Restricted Securities when such Restricted Securities have been sold pursuant to an effective registration statement under the Securities Act, or pursuant to Rule 144 under the Securities Act or any other exemption from the registration requirements of the Securities Act pursuant to which the transferee receives securities that are not "restricted securities" within the meaning of that term as defined in Rule 144(a)(3). Whenever any of such restrictions terminate as to any Restricted Securities, the holder thereof will be entitled to receive from the Company, at the Company's expense, new certificates representing such New Purchased Securities, without restrictive legends.

9. Expenses; Indemnification.

(a) Whether or not the transactions contemplated by this Agreement are consummated (and whatever the reason or cause for any such failure to consummate), the Company hereby agrees to pay on demand up to \$10,000 of the reasonable out-of-pocket expenses (including without limitation the reasonable fees and charges for disbursements of one counsel to the New Purchaser) incurred by the New Purchaser in connection with such transactions hereunder, and all reasonable out-of-pocket expenses (including without

limitation the reasonable fees and charges for disbursements of one counsel to the New Purchaser) incurred by the New Purchaser in connection with the enforcement of any rights hereunder or with respect to any of the New Purchased Securities, including without limitation (i) the cost and expenses of preparing and duplicating this Agreement and the New Purchased Securities; (ii) the cost of delivering to the New Purchaser's principal office, insured to the New Purchaser's satisfaction, the New Purchased Securities sold to the New Purchaser hereunder and any New Purchased Securities delivered to the New Purchaser in exchange therefor or upon any conversion, exchange, or substitution thereof; and (iii) all taxes (other than taxes determined with respect to the income of the New Purchaser), including any recording fees and filing fees and documentary stamp and similar taxes at any time payable in respect of this Agreement or the issuance of any of the New Purchased Securities.

(b) All covenants, agreements, representations, and warranties made herein or in the Other Agreements or any other document referred to herein or delivered to the New Purchaser pursuant hereto will be deemed to have been relied on by the New Purchaser, notwithstanding any investigation made by or on behalf of the New Purchaser, and will survive the Closing. The Company will indemnify, defend, and hold harmless the New Purchaser, and each of the New Purchaser's partners, stockholders, officers, directors, employees, agents, and representatives, from and against any and all Damages incurred by any of them in any capacity and resulting from or relating to the breach by the Company of any of its representations, warranties, covenants, or agreements contained in this Agreement.

(c) The obligations of the Company under this Section 9 will survive transfer of the New Purchased Securities and the termination of this Agreement.

10. Definitions.

10.1. Certain Defined Terms. For all purposes of this Agreement the following terms will have the meanings set forth or cross-referenced in this Section 10:

"Affiliate" means any other person directly or indirectly controlling, controlled by, or under direct or indirect common control with the Company (or other referenced person) and includes without limitation, (a) any person who is an officer, director, or direct or indirect beneficial holder of at least 10% of the then outstanding capital stock of the Company (or other referenced person), and any of the Family Members of any such person, (b) any person of which the Company (or other referenced person) and/or its Affiliates (as defined in clause (a) above), directly or indirectly, either beneficially own(s) at least 10% of the then outstanding equity securities or constitute(s) at least a 10% equity

participant, (c) in the case of a specified person who is an individual, Family Members of such person.

"Amended Charter" means the Company's Second Amended and Restated Certificate of Incorporation, as filed with the Secretary of State of Delaware on or about August 28, 1998, in the form of the attached Exhibit D.

"Common Stock" means the Common Stock, \$0.001 par value per share, of the Company.

"Damages" means all damages, losses, claims, demands, actions, causes of action, suits, litigations, arbitrations, liabilities, costs, and expenses, including without limitation court costs and the fees and expenses of counsel and experts.

"Derivative Securities" means (i) all shares of stock and other securities that are convertible into or exchangeable for shares of Common Stock and (ii) all options, warrants, and other rights to acquire shares of Common Stock or securities convertible into or exchangeable for shares of Common Stock.

"Employment Agreements" means, collectively, the following agreements, each as it may be amended from time to time: (i) the employment agreements between the Company and each of Douglas S. Hobbs, Daniel J. Sullivan, Jr., and James P. Nole, each dated as of September 11, 1996, and (ii) the Employment Agreement dated as of June 11, 1998, by and between the Company and Bruce MacLeod.

"Family Members" means, as applied to any individual, any parent, spouse, child, spouse of a child, brother or sister of the individual, and each trust created for the benefit of one or more of such persons and each custodian of a property of one or more such persons and the estate of any such persons.

"GAAP" means generally accepted accounting principles that are (i) consistent with the principles promulgated or adopted by the Financial Accounting Standards Board and its predecessors, (ii) applied on a basis consistent with prior periods, and (iii) such that, insofar as the use of accounting principles is pertinent, a certified public accountant could deliver an unqualified opinion with respect to financial statements in which such principles have been properly applied.

"Liens" means any and all liens, claims, mortgages, security interests, charges, encumbrances, and restrictions on transfer of any kind, except, in the case of references to securities, any of the same arising under applicable securities laws solely by reason of the fact that such securities were issued pursuant to exemptions from registration under such securities laws.

- 33 -

"Majority Holders" means, as of the relevant time of reference, the record holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of shares of Preferred Stock.

"Majority Series A/B Holders" means, as of the relevant time of reference, the record holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of shares of Series A Preferred Stock and Series B Preferred Stock. The definition of the term "Majority Holders" in each of the Series B Agreement and the Series B Agreement is hereby amended and restated in its entirety to read exactly as does the preceding sentence.

"Majority Series C Holders" means, as of the relevant time of reference, the record holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of shares of Series C Preferred Stock.

"Material Adverse Effect" means, with reference to the Company, a material adverse effect on the condition (financial or otherwise), operations, business, assets, or prospects of the Company, or on its ability to consummate the transactions hereby contemplated.

"Other Agreements" means all of the agreements, instruments, certificates, and other documents executed and delivered by the Company in connection with this Agreement, whether at the Closing or otherwise.

"person" (regardless of whether capitalized) means any natural person, entity, or association, including without limitation any corporation, partnership, limited liability company, government (or agency or subdivision thereof), trust, joint venture, or proprietorship.

"Preferred Stock" means the Series A Preferred Stock, Series B Preferred Stock, and Series C Preferred Stock, collectively.

"Purchased Securities," as used in Sections 4, 5, and 6 hereof, includes both the New Purchased Securities and the securities constituting "Purchased Securities" under the Series A Agreement and the Series B Agreement, respectively.

"Purchasers," as used in Sections 5 and 6 hereof, includes both the New Purchaser and those persons who are "Purchasers" under the Series A Agreement and the Series B Agreement, respectively.

"Qualified Public Offering" means a firm-commitment underwritten public offering of shares of Common Stock pursuant to an effective registration statement under the Securities Act, at a per-share price to the public not less than 300% of the then "Applicable Conversion Value" of the Series C Preferred

Stock pursuant to the Amended Charter, resulting in gross proceeds to the Company (before underwriting discounts and commissions and offering expenses) from such sales to the public of at least \$10,000,000. The definition of the term "Qualified Public Offering" in each of the Series A Agreement and the Series B Agreement is hereby amended and restated in its entirety to read exactly as does the preceding sentence (incorporating by reference therein the definition of "Amended Charter" set forth above).

"Securities Act" means the Securities Act of 1933, as amended, or any successor federal statute, and the rules and regulations of the Securities and Exchange Commission thereunder, all as the same are in effect at the relevant time of reference.

"Series A Preferred Stock" means the Series A Preferred Stock, par value \$0.001 per share, of the Company, the terms of which are as set forth in the Amended Charter.

"Series B Preferred Stock" means the Series B Preferred Stock, par value \$0.001 per share, of the Company, the terms of which are as set forth in the Amended Charter.

"Series C Preferred Stock" means the Series C Preferred Stock, par value \$0.001 per share, of the Company, the terms of which are as set forth in the Amended Charter.

"Stockholders' Agreement" means the Second Amended and Restated Stockholders' Agreement, dated as of the Closing Date, by and among the Company and certain of its Stockholders, and substantially in the form of the attached Exhibit E.

"Subsidiary" means, with respect to any person, any corporation a majority (by number of votes) of the outstanding shares of any class or classes of which at the time are owned by such person or by a Subsidiary of such person, if the holders of the shares of such class or classes (a) are ordinarily, in the absence of contingencies, entitled to vote for the election of a majority of the directors (or persons performing similar functions) of the issuer thereof, even though the right so to vote has been suspended by the happening of such a contingency, or (b) are at the time entitled, as such holders, to vote for the election of a majority of the directors (or persons performing similar functions) of the issuer thereof, whether or not the right so to vote exists by reason of the happening of a contingency.

"Tax" or "Taxes" means any federal, state, local, or foreign income, gross receipts, franchise, estimated, alternative minimum, add-on minimum, sales, use, transfer, registration, value added, excise, natural resources, severance,

stamp, occupation, premium, windfall profit, environmental, customs, duties, real property, personal property, capital stock, intangibles, social security, unemployment, disability, payroll, license, employee, or other tax or levy, of any kind whatsoever, including any interest, penalties, or additions to tax in respect of the foregoing.

10.2. Terms Defined Elsewhere. The following terms are defined herein in the sections identified below:

Term	Section	Term	Section
Agreement	Preamble	Portion	4.1
Closing	1.3	Proprietary Information	2.10(a)
Closing Date	1.3	New Purchased Securities	1.1
Commission	6.1	Purchaser	Preamble
Company	Preamble	registered/registration	6.1
Demand Registration	6.2(a)(i)	Registrable Securities	6.1
Holder(s)	6.1	Registration Expenses	6.7(a)
indemnified party	6.8(c)	Restricted Securities	8.1
indemnifying party	6.8(c)	Series A Agreement	Preamble
Most Recent Balance		Series B Agreement	Preamble
Sheet	2.7	Underwriters' Maximum	
Offeree	4.1	Number	6.1
Piggyback Registration	6.3(a)(i)		

11. Miscellaneous Provisions.

11.1. Amendments, Consents, Waivers, Etc.

(a) This Agreement or any provision hereof may be amended or terminated by the agreement of the Company and the Majority Series C Holders, *provided*, that the provisions of Sections 4 ("Participation Rights"), 5 ("Covenants"), or 6 ("Registration Rights") or of this Section 11.1(a) may only be amended or terminated by the agreement of the Company, the Majority Series C Holders, and the Majority Series A/B Holders.

The observance of any provision of this Agreement that is for the benefit of the New Purchaser may be waived (either generally or in a particular instance, and either retroactively or prospectively), and any consent, approval, or other action to be given or taken by the New Purchaser pursuant to this Agreement may be given or taken, only by the consent of the Majority Series C Holders; *provided, however*, that any holder of New Purchased Securities may in writing waive, as to him-, her-, or itself only, the benefits of any provision of this Agreement.

The observance of any provision of this Agreement that is for the benefit of the Previous Purchasers may be waived (either generally or in a particular instance, and either retroactively or prospectively), and any consent, approval, or other action to be given or taken by the Previous Purchasers pursuant to this Agreement may be given or taken, only by the consent of the Majority Series A/B Holders; *provided, however,* that any of the Previous Purchasers may in writing waive, as to him-, her-, or it-self only, the benefits of any provision of this Agreement.

(b) No course of dealing between or among any of the parties hereto will operate as a waiver of any rights or remedies under this Agreement. No waiver of any breach or default hereunder will be valid unless in a writing signed by the waiving party. No failure or other delay by any person in exercising any right, power, or privilege hereunder will be or operate as a waiver thereof, nor will any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power, or privilege.

11.2. Notices. All notices, requests, payments, instructions or other documents to be given hereunder will be in writing or by written telecommunication, and will be deemed to have been duly given if (i) delivered personally (effective upon delivery), (ii) mailed by certified mail, return receipt requested, postage prepaid (effective five business days after dispatch), (iii) sent by a reputable, established courier service that guarantees next business day delivery (effective the next business day), or (iv) sent by telecopier followed within 24 hours by confirmation by one of the foregoing methods (effective upon receipt of the telecopy in complete, readable form), addressed as follows (or to such other address as the recipient party may have furnished to the sending party for the purpose pursuant to this section):

(a) If to the Company:

Holographic Lithography Systems, Inc.
Three Preston Court
Bedford, Massachusetts 01730
Attention: Daniel J. Sullivan, Jr.

Telecopier No. (781) 276-4074

- 37 -

with a copy sent at the same time and by the same means to:

Brian Keeler, Esq.
Bingham Dana LLP
150 Federal Street
Boston, Massachusetts 02110

Telecopier No. (617) 951-8736

- (b) If to the New Purchaser, to:

Woodruff Family, Ltd.
c/o William K. Woodruff & Company Incorporated
7557 Rambler Road, Suite 112
Dallas, Texas 75231
Attention: Gary Nabhan

Telecopier No. (214) 361-1883

with a copy sent at the same time and by the same means to:

Andrew M. Baker, Esq.
Baker & Botts, L.L.P.
2001 Ross Avenue, Suite 600
Dallas, Texas 75201

Telecopier No. (214) 953-6503

- (c) If to any Previous Purchaser, to his, her, or its address set forth in the register referred to in Section 7.1 of this Agreement.

11.3. Counterparts. This Agreement may be executed by the parties in separate counterparts, each of which when so executed and delivered will be an original, but all of which together will constitute one and the same agreement. In pleading or proving this Agreement, it will not be necessary to produce or account for more than one such counterpart.

11.4. Captions. The captions of sections or subsections of this Agreement are for reference only and will not affect the interpretation or construction of this Agreement.

11.5. Binding Effect and Benefits. This Agreement will bind and inure to the benefit of the parties hereto and their respective successors and permitted assigns. Except as otherwise provided in this Agreement, the provisions of this Agreement that are for the New Purchaser's benefit as the

holder of any New Purchased Securities will inure to the benefit of all permitted transferees of such New Purchased Securities, and the applicable provisions of this Agreement that bind the New Purchaser will bind all transferees of such New Purchased Securities.

Nothing in this Agreement is intended to or will confer any rights or remedies on any person other than the parties hereto and their respective successors and permitted assigns, except that the "Purchasers" under the Series A Agreement and the Series B Agreement, respectively, and the holders from time to time of securities constituting "Purchased Securities" under the Series A Agreement and the Series B Agreement, respectively, are intended third-party beneficiaries of certain provisions of this Agreement, as specifically indicated herein.

11.6. Construction. The language used in this Agreement is the language chosen by the parties to express their mutual intent, and no rule of strict construction will be applied against any party.

11.7. Further Assurances. From time to time on and after the Closing Date, the Company will promptly execute and deliver all such further instruments and assurances, and will promptly take all such further actions, as the New Purchaser may reasonably request in order more effectively to effect or confirm the transactions contemplated by this Agreement and/or any of the Other Agreements and to carry out the purposes hereof and thereof.

11.8. Severability. No invalidity or unenforceability of any section of this Agreement or any portion thereof will affect the validity or enforceability of any other section or the remainder of such section.

11.9. Equitable Relief. Each of the parties acknowledges that any breach by such party of its obligations under this Agreement would cause substantial and irreparable damage to one or more of the other parties and that money damages would be an inadequate remedy therefor. Accordingly, each party agrees that the other parties or any of them will be entitled to an injunction, specific performance, and/or other equitable relief to prevent the breach of such obligations.

11.10. Entire Agreement. This Agreement, together with the exhibits and schedules hereto, contains the entire understanding and agreement among the parties, or between or among any of them, and supersedes any prior or contemporaneous understandings or agreements between or among any of them, with respect to the subject matter hereof.

11.11. Effect on Previous Agreements. Each of the Series A Agreement and the Series B Agreement is hereby amended only as specifically

- 39 -

set forth herein, and as so amended will remain in full force and effect in accordance with its terms.

11.12 Governing Law. This Agreement will be governed by and interpreted and construed in accordance with the internal laws of the State of Delaware (without reference to principles of conflicts or choice of law).

[The rest of this page is intentionally left blank.]

100-12764074-12764074-12764074

ID 917612764074 P.04

- 40 -

IN WITNESS WHEREOF, each of the parties has executed and delivered this Agreement as an agreement under seal on and as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY
SYSTEMS, INC.

By

Name: A. S. & J. Sullivan Jr.
Title: President

NEW PURCHASER:

WOODRUFF FAMILY, LTD.

By: KEYS MANAGEMENT, LLC
its general partner

By _____

Name: _____

Title: _____

PREVIOUS
PURCHASERS:

Daniel J. Sullivan, Jr.

Robert Giordano

William M. McCarthy

BUSUDOCB:660663.4

09/14/1998 15:52 214-696-3617
SEP-11-98 16:36 FROM-BAKER BOTTS

WILLIAM K. WOODRUFF

PAGE 02

T-603 P.02/04 F-707

- 40 -

IN WITNESS WHEREOF, each of the parties has executed and delivered this Agreement as an agreement under seal on and as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY
SYSTEMS, INC.

By _____

Name:

Title:

NEW PURCHASER:

WOODRUFF FAMILY, LTD.

By: WILLIAM K. WOODRUFF,
its general partner

By Gary P. Naphan
Gary P. Naphan
Attorney-in-Fact

PREVIOUS
PURCHASERS:

Daniel J. Sullivan, Jr.

Robert Giordano

William M. McCarthy

BUSDOCS:650653-4

08/26/98 10:22 FAX 19085229230
08/25/1998 12:48 7812764874
AUG 25 '98 10:48 FR BINGHAM DANA LLP

Robert Giordano
HLS
TO 917812764874

02
PAGE 03

- 40 -

IN WITNESS WHEREOF, each of the parties has executed and delivered this Agreement as an agreement under seal on and as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY
SYSTEMS, INC.

By _____
Name:
Title:

NEW PURCHASEE:

WOODRUFF FAMILY, LTD.

By: KEYS MANAGEMENT, LLC
its general partner

By _____
Name:
Title:

PREVIOUS
PURCHASERS:

Daniel J. Sullivan, Jr.

Robert M. Giordano
Robert Giordano
M.

William M. McCarthy

BUSDOC#650633-4

AUG-27-98 11:02 From: INVECO MANAGEMENT & RESEARCH

6172614560

T-833 P.02/06 Job-135

- 40 -

IN WITNESS WHEREOF, each of the parties has executed and delivered this Agreement as an agreement under seal on and as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY
SYSTEMS, INC.

By _____

Name:

Title:

NEW PURCHASER:

WOODRUFF FAMILY, LTD.

By: KEYS MANAGEMENT, LLC
its general partner

By _____

Name:

Title:

PREVIOUS
PURCHASERS:

Daniel J. Sullivan, Jr.

Robert Giordano

William M. McCarthy
William M. McCarthy

BUEDOCS:650664-4

AUG-27-98 11:02 From: INVECO MANAGEMENT & RESEARCH

6172614560

T-833 P.03/06 Job-135

- 41 -

Kathleen E. McCarthy Trustee

Kathleen E. McCarthy, not individually,
but as Trustee of The William McCarthy
1996 Children's Trust

Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

BUSDO08-450653.4

** TOTAL PAGE.85 **

11/18/13 03:10 FAX

08/25/1998 12:43

7812754874

HLS

10-21-03-0754874

4003
PAGE 84

P.05

- 41 -

Kathleen E. McCarthy, not individually,
but as Trustee of The William McCarthy
1998 Children's Trust


Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

BUSIDOC#0300653.4

* * * TOTAL PAGE.05 **

AUG-25-98 14:01 FROM: GS&CO HIGH YIELD
HUB 20 198 10:48 FR BINGHAM DANA LLC

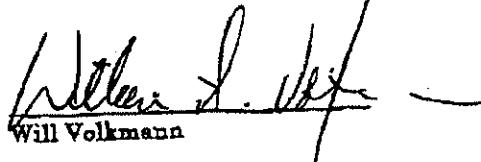
ID: 2123463976
TO 917812764074

PAGE 4/4
P.05

- 41 -

Kathleen E. McCarthy, not individually,
but as Trustee of The William McCarthy
1996 Children's Trust

Barry Coffman


Will Volkmann

James R. Lewis

Michael J. Walsh

2005DOCS-850463.4

** TOTAL PAGE.05 **

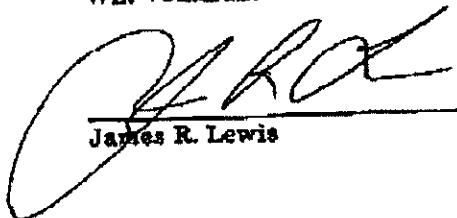
AUG 25 '98 17:40 FR J LEWIS KOHLER CO 516 331 2956 TO 16179518736 P.04/05
88/25/1998 12:00 7812764074 P.05

- 41 -

Kathleen E. McCarthy, not individually,
but as Trustee of The William McCarthy
1998 Children's Trust

Barry Coffman

Will Volkmann



James R. Lewis

Michael J. Wahab

BU5DDOCU.6500034

204 TOTAL PAGE.05 204

AUG 25 '98 12:59

7812764074

PAGE.03

AUG-26-98 WED 08:39 AM SCHEID & MAKAR
08/25/1998 12:56 7812764074

FAX NO. 910-584-0100
HLS 10 7812764074 PAGE 04/06
F.00

. 41 .

Kathleen E. McCarthy, not individually,
but as Trustee of The William McCarthy
1996 Children's Trust

Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

EXHIBIT

5

HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.
SHAREHOLDERS MEETING
JANUARY 17, 2000

A meeting of the Shareholders of Holographic Lithography Systems, Inc. was held at 6PM on January 17th, 2000 at the company's offices located at 65 Wiggins Avenue, Bedford, MA.

Present for the meeting were Dan Sullivan, Jim Nole, Adam Kelsey, Bruce MacLeod, Mark Leclerc, Ernie Sabatino, Greg Sonck, Will Volkmann, Bob Giordano, Bill McCarthy, Barry Coffman, & Dan Resler, Jim Lewis, Gary Nabhan, and Mike Walsh.

Also attending the meeting was Mr. Larry Griffin, a consultant to HLS.

Dan proceeded to distribute and review current financial statements along with revenue and cashflow projections. February 1st, 2000 cash balance was projected to be approximately \$115k. Current cashburn rate was averaging \$120k/month. A purchase order for a tool system to JDS Uniphase was still expected for \$1.1M almost 'any day'. A deposit from that tool system would generate a \$550k deposit, of which \$300k would be spent on build out of that tool system.

An update was given by Dan, Larry, and Jim regarding status of potential acquisition and VC capital raising efforts. To date, HLS was able to make several presentations to potential acquirers with minimal prospects. Most notably, no follow up had been taken on the part of ASM Lithography. Efforts would continue with additional acquisition companies and VC's.

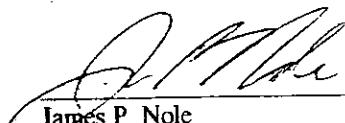
Gary Nabhan, who serves as President and CEO of Optical Switch Corporation, Inc., indicated that there may be interest on the part of OSC to acquire HLS. Gary continued with a detailed review of OSC including their current financial, technology, and capital raising status. It was determined that HLS shall discuss immediate "development" projects with OSC to determine applicability of HLS technology to OSC.

Dan proceeded with 'Bridge Loan' financing discussion. It was determined that a deposit from JDS Uniphase for \$550k could allow operations to continue at current pace through approximately May 1, '00 allowing HLS to continue with acquisition and capital raising efforts without the need of bridge financing. However, if the deposit from Uniphase was not received by 2/10/00, bridge financing would be required. Terms of a \$500,000 bridge loan were discussed and to be followed up individually by Dan Sullivan with each shareholder during the following week.

An update of the Hobbs litigation was given by Dan.

Meeting adjourned.

ATTEST:



James P. Nole
Secretary

DEF 4895

To: HLS Shareholders

From: Dan Sullivan

Re: Mon Jan 17,2000 Shareholder Meeting

Date: Jan. 13, 2000

I am writing this memo to provide you with the agenda for our meeting and to elaborate on certain topics so that you will have the opportunity to consider them in advance of the meeting.

Agenda

1. Marketing Overview	Jim
2. Company Sale Process	Dan, Larry, Jim
3. VC Financing	Dan
4. Stand-By Bridge Loan	Dan
5. Patent Update	Dan
6. Hobbs Litigation	Dan

2. Company Sale Process

You will recall that in our November shareholder meeting we decided to proceed to attempt to sell the company to a potential list of buyers which we detailed at the meeting. We decided to determine if a sale is possible before approaching VCs because we did not want to dilute ourselves, raising additional funds if the company is going to be sold quickly. If we are not successful in selling the company at this time, we can and should continue to try to sell going forward. However, we also have to be mindful that, eventually, if we do not invest in the company, the value of the enterprise will not increase and we may miss certain compelling opportunities. To balance these objectives, we have decided to seek VC financing if we do not attract a buyer from the existing group of prospects. If we identify a buyer after the VC round then we will have to regard the dilution as a cost of doing business, recognizing that the financial markets may not always be as favorable as the present, and we want to move the business forward. If we raise VC capital, we hope that we will use the funds to better position the company for a sale a year from now. We have recently agreed to engage Matt Smillie of Eyesaver Intl. To attempt to sell the entire company, or possibly only the Motheye business, to a small list of companies that are engaged in businesses that involve anti-reflective coatings. Thus far, we have authorized Matt to contact Pilkington, Schott Glass, Motorola Automotive, and NCR. It will likely require a number of months for Matt to develop interest. These are companies where Matt has a strong relationship and we do not.

There are two potential buyers that I want to mention among the existing prospects:

ASM Lithography

ASM will soon be the world's largest lithography company. The market capitalization of the company is approximately \$15 billion. Jim and Bruce met with the company in November, and Jim and Adam met with the company in December, to discuss the purchase of HLS by ASM. We told ASM that we would like to hear from them by Jan 15 if they are interested in pursuing an acquisition. We told them that we believe that we have access to ample and attractively priced venture capital and that if we do not sell immediately, we are prepared to expand considerably to capture the opportunities that we see. ASM executed and sent us a nondisclosure agreement this week. We expect that if they wish to proceed, that they will send a team to visit HLS and then would issue a letter of intent by around March 1, if they decide to purchase the company. They seem interested, but I can't put a probability on the outcome.

Optical Switch Corporation

Gary Nabhan, an HLS director and shareholder, is also the President of Optical Switch Corp. Gary has believed for some time that there should be a way for Optical Switch and HLS to collaborate on the development and production of an optical switch. This week Gary sent a team of 3 people to HLS to conduct a technology audit of HLS in order to more closely evaluate the merits of a collaboration between, or combination of, the two companies. At our shareholder meeting, Gary is going to discuss the possibility of an "all stock" merger between HLS and Optical Switch. Optical Switch has recently begun to attempt to raise \$50million using a \$500 million valuation for Optical Switch. The Executive Summary from the Optical Switch private placement memo follows:

I. Executive Summary

Optical Switch Corporation ("OSC" or the "Company") was formed in June 1997 to design, manufacture and commercialize optical switch components that would obsolete present conventional optical/electrical/optical (O/E/O) switches which are the major remaining obstacle toward achieving **truly high speed Internet access and high bit-rate data transmission**. Having completed a sophisticated Proof of Concept development stage, the Company is now **positioned to capture and dominate a multi-billion dollar switching components market with technology that is not only one year ahead of the nearest competitor, but protected by eleven patents with more pending**. The market for optical switch components should grow rapidly to over \$6 billion in annual sales by the year 2005. OSC expects to achieve cumulative revenues approaching \$6 billion over the next six years.

The absence of high performance optical switch components is the most significant obstacle to telecommunications and data network bandwidth expansion. Specifically, the fiber channels of the public network are now only

being utilized at frequencies in the low giga-bit per second range. The channel bandwidth limitation occurs because of the inherent technological insufficiencies of data input and output devices, and channel manipulation devices, such as switches, amplifiers, and interconnections. Electrical switches, or O/E/O conversion equipment, which are currently deployed, are inherently wavelength dependent and consequently are incapable of handling high data and bit-rate dependent and consequently are incapable of handling high data throughput without the utilization of expensive wavelength conversion techniques. **Switches operating in the all-optical domain, such as those being designed by OSC, provide bandwidths as high as the fiber channel itself. The Company's optical switch components will serve as the optical core for next generation network elements such as Optical Add/Drop Multiplexers (OADMs) for the access network, Transport Optical Cross Connects (OXCs) for advanced mesh and core networks, and high-speed Internet Protocol (IP) and Asynchronous Transfer Mode (ATM) routers for voice and data aggregation.**

OSC is targeting over 50 companies known as Network Element Manufacturers (NEMs) that are in the process of creating network elements to enable an advanced All Optical Network (AON) that will be more flexible and economical in the provisioning of bandwidth for data communications. The NEMs' customers are the network systems providers or carriers, such as AT&T, MCIWorldCom, Quest, Sprint, Williams Companies, the Regional Bell Operating Companies and the Competitive Local Exchange Carriers. The Company's strategy is to sell components and subsystems to NEMs that will incorporate OSC switch components in network elements marketed to network systems providers. Specific NEM potential customers include: Alcatel, Ciena, Cisco, Fujitsu, Juniper Networks, Lucent, Nortel Networks, Siemens, and Sycamore Networks.

OSC believes that, as a result of the empirical results achieved, rigorous designs of experiments, and simulations it has conducted during the Proof of Concept phase, the performance of its optical switch components will significantly exceed those of all other competitors. The Company's intellectual property portfolio constitutes a significant competitive barrier. OSC holds eleven patents based on total internal reflection and frustrated total internal reflection and is in the process of filing additional patent applications based on these and other technologies.

OSC has now entered the Alpha prototype phase. The Company has been in dialogue with over 50 different potential customers for its optical switch components. OSC has a clear understanding of its customers' needs with respect to product performance requirements, including: reliability, switching speed, insertion loss, cross talk, return loss, strictly non-blocking architecture, polarization dependent loss, uniformity, repeatability, bi-directionality, power consumption and many other attributes. The Company plans to have a pilot production line running by the end of Q2 2000, and is preparing now for a hard production ramp during the second half.

A. Target Market for Optical Switch Components

The demand for optical switch components is a function of complex telecommunications and network architecture considerations which are primarily driven by the explosive growth of demand for Internet access and services specifically, and data communications in general. A respected industry research and consulting group, Ryan, Hankin & Kent, predicts that bandwidth of the public network will have to increase by over 2000% between 1998 and 2002 in order to accommodate such demand. Based on the Company's analysis of industry data, customer input, and technological development, OSC estimates total optical switch component industry sales as follows:

Year	2000	2001	2002	2003	2004	2005
Estimated Total Market	\$384,496	\$855,081	\$1,729,692	\$3,112,328	\$5,079,855	\$6,656,922

**Estimated Market for Optical
Switch Components (\$000)**
(Table 1.1)

OSC expects to manufacture and ship products that not only meet or exceed industry requirements, but also significantly exceed those of the competing product entries. The Company believes that it can capitalize on these advantages to capture significant share in its targeted markets in a brief period of time and, as a result, generate considerable revenues and profitability. The Company's revenue projections are outlined below in Table 1.2:

Year	2000	2001	2002	2003	2004	2005
Revenue	\$47,096	\$241,231	\$526,593	\$1,023,866	\$1,675,549	\$2,194,358

Estimated OSC Revenues (\$000)
(Table 1.2)

3. VC Financing

As we stated earlier, we will immediately attempt to raise VC financing if we are not able to complete a sale to one of these prospects. We will discuss the size of the financing at the meeting. We have sent copies of our business plan to TAT Capital, Summit Partners, Arch Ventures, Invesco, and EMC Corp. Summit and TAT have decided not to invest. In addition, Memorial Drive Trust and Inflexion Partners have indicated that they are interested in meeting with us when we have decided that we are pursuing the financing option. Jim met with EMC and they stated that they may have an interest in participating in a financing with one or more VCs included in the same round. I am going to follow up with EMC. The fact that we will be disclosing that we intend to sell the company within one year, if possible, may have a dampening effect on the valuation that we receive. We will discuss this topic during the meeting.

4. Stand By Bridge Loan

At the end of Dec 1999 the company had about \$235,000 remaining. We are expecting \$51,000 in cash receipts from outstanding invoices by the end of February. We are expecting a deposit of \$550,000 from Uniphase very soon. We will spend about \$300,000 on the cost of the tool. With the Uniphase deposit we probably have sufficient cash to last through April. Without the Uniphase money, we will run out of money in February. Therefore, we have to make provisions to "bridge" the company until an acquisition or to the closing of a VC financing.

I am proposing the following bridge terms: Every shareholder (excluding Hobbs), including employees would be offered the chance to participate in proportion to their existing ownership. I am suggesting that we commit \$500,000. The period of commitment would be 1 year. The money would be drawn in 1/3 increments with 10 days notice. The funding instrument would be a loan that will pay the prime rate plus 2% and pay interest quarterly. The loan would be convertible at the option of the company into equity. This provision allows the company to force all bridge participants to convert into equity on the same terms as a VC, if the VC insists, which they almost certainly will. In the event that the bridge is re-paid by the proceeds from an acquisition, then each lender will receive \$4 dollars back for every \$1 funded, or drawn down. The remainder of these proceeds would be proportionately divided among the shareholders, assuming the proceeds exceed the face value of preferred stock outstanding. In return for a commitment of \$500,000 the bridge participants will receive their proportionate share of options to buy 10,500 shares of common stock at \$7.62. I will discuss the logic behind this proposal at our meeting.

Holographic Lithography Systems, Inc.

Shareholders Meeting

January 17, 2000

Marketing Update

1. DWDM Status:

- a. Uniphase: Final specifications etc. finalized 12/21/99; Awaiting final sign off from corporate level; anticipate deposit (\$550k) any day.
- b. Lucent: Meeting 1/7/00 at Lucent; proposed various tool options; awaiting response; next step may involve test wafers?
- c. Lasertron: Delivered samples for etch verification on 1/12; proposed various tool system options Jan 4; may be moving towards equipment purchase due to Corning acq.
- d. Nortel: Updated process status 12/20 and gave tool system options; they were to discuss internally and get back to us immediately?

2. Disk Drive/TFH:

- a. Seagate Minnesota: Received update on intent to purchase; they will visit on 1/19 and 1/20 to review process work, verify tool specs. and pricing. First tool for development expected to be authorized for purchase in March (?); multiple production tool orders 9-12 months later (tool quotes).
- b. Seagate Santa Clara: Received disks for patterning in December; awaiting internal tool availability to proceed;
- c. Seagate Research Pittsburgh: Received PO for initial test wafers in Dec; awaiting internal tool availability to proceed;
- d. Quantum: issued quote in Dec for research patterning; informed 1/13 that all projects have been "temporarily suspended". Hope to proceed in Spring.
- e. IBM/Almaden Research: Awaiting PO for initial patterning trials;

3. MOTHEYE:

- a. Hitachi: Task I.A payment received 12/10; payment for balance of work due by March;
- b. Fresnel: Finally received samples back from their replication run on 1/12; initial reports say they were pleased with performance from replicas; trying to arrange conference call to determine point of implementing our motheye into their production;
- c. Dai Nippon Printing: They visited us 12/20; demonstrated samples and performance that is far beyond what they have ever seen; wanted quotation for test "masters" which they will replicate; expect PO in January.
- d. Korry Electronics: Received PO for master in Dec; due to be shipped by end Jan; they will replicate internally;
- e. Lucent: Demonstrated new motheye data at 1/7 meeting; they are going to put us in touch with appropriate engineers; many telecom applications exist requiring increased transmission.

- f. Uniphase: Demonstrated new motheye data at 12/16 meeting; they are going to put us in touch with appropriate engineers; many telecom applications exist requiring increased transmission.
- g. Raytheon TI Systems: Complete Phase I project; IR Motheye; awaiting results;
- h. Corning: Requested quotation for motheye master, in glass or acrylic, optimized for 1.3-1.5 um band (telecom application/fiber?)

4. Other Notables:

- a. SBIR Motheye
- b. Photonic Band Gap/Boeing
- c. Honeywell ATP
- d. HP (status, new PO's)
- e. Biomedical: St. Jude/Illumina projects
- f. Bell Labs/ASM/Applied project

Holographic Lithography Systems
Status of M & A Activity
January 17, 2000

1. Active

ASM	Optical Switch
SVG	Veeco
Novellus	

2. Still Attempting to Contact

KLA Tencor	Teradyne
Zygo	Brooks Automation

3. Declined

Applied Materials	Etec
Schlumberger	
Varian Semiconductor Systems	

4. Potential Corporate Investor

EMC

5. Not Contacted

Ultratech	Seagate
Uniphase	Coherent
3M	

6. Matt Smillie's Contacts ~~— No THEY~~

Schott Glass	Pilkington
NCR	Motorola

HLS Shareholder Meeting
 Jan. 17, 2000
 Agenda

1. Marketing Overview

2. Financial Update

CASH - \$235,000 + \$51,000
 REV 8969.000
 EXP 1865,000
 \downarrow \$897,000 NEG CASHFLOW
 \$1007,000

3. Company Sale Process

- ASM
 - OSC

4. VC Financing JAT Capital, Summit Partners,
 Arch Ventures, FNF, Inc., Emory Management Group Inc.,
 Inflection Partners,

5. Stand-By Bridge Loan

6. Patent Update

7. Hobbs Litigation

BRIDGE LOAN -

~~1600~~
~~264,250~~

\$2685
~~1000~~ = ~~\$2685~~
~~186210~~ cons.
 \$10,500 @
 \$7.62

\$500,000

1/3 COMMINT

1/3 COMMINT 100% NOTE

PALM + 37.97%

CHIT PROFIT \$4 FOR \$1 DEBT
 VL FUNDING CONVERSION COMPANY DATA
 100% ACQUISITION = ?

DEF 4904

Holographic Lithography Systems, Inc.

Shareholders Meeting

January 17, 2000

Marketing Update

1. DWDM Status:

- a. Uniphase: Final specifications etc. finalized 12/21/99; Awaiting final sign off from corporate level; anticipate deposit (\$550k) any day.
- b. Lucent: Meeting 1/7/00 at Lucent; proposed various tool options; awaiting response; next step may involve test wafers?
- c. Lasertron: Delivered samples for etch verification on 1/12; proposed various tool system options Jan 4; may be moving towards equipment purchase due to Corning acq.
- d. Nortel: Updated process status 12/20 and gave tool system options; they were to discuss internally and get back to us immediately?

2. Disk Drive/TFH:

- a. Seagate Minnesota: Received update on intent to purchase; they will visit on 1/19 and 1/20 to review process work, verify tool specs, and pricing. First tool for development expected to be authorized for purchase in March (?); multiple production tool orders 9-12 months later (tool quotes).
- b. Seagate Santa Clara: Received disks for patterning in December; awaiting internal tool availability to proceed;
- c. Seagate Research Pittsburgh: Received PO for initial test wafers in Dec; awaiting internal tool availability to proceed;
- d. Quantum: issued quote in Dec for research patterning; informed 1/13 that all projects have been "temporarily suspended". Hope to proceed in Spring.
- e. IBM/Almaden Research: Awaiting PO for initial patterning trials;

3. MOTHEYE:

- a. Hitachi: Task I.A payment received 12/10; payment for balance of work due by March;
- b. Fresnel: Finally received samples back from their replication run on 1/12; initial reports say they were pleased with performance from replicas; trying to arrange conference call to determine point of implementing our motheye into their production;
- c. Dai Nippon Printing; They visited us 12/20; demonstrated samples and performance that is far beyond what they have ever seen; wanted quotation for test "masters" which they will replicate; expect PO in January.
- d. Korry Electronics: Received PO for master in Dec; due to be shipped by end Jan; they will replicate internally;
- e. Lucent: Demonstrated new motheye data at 1/7 meeting; they are going to put us in touch with appropriate engineers; many telecom applications exist requiring increased transmission.

- f. Uniphase: Demonstrated new motheye data at 12/16 meeting; they are going to put us in touch with appropriate engineers; many telecom applications exist requiring increased transmission.
- g. Raytheon TI Systems: Complete Phase I project; IR Motheye; awaiting results;
- h. Corning: Requested quotation for motheye master, in glass or acrylic, optimized for 1.3-1.5 um band (telecom application/fiber?)

4. Other Notables:

- a. SBIR Motheye
- b. Photonic Band Gap/Boeing
- c. Honeywell ATP
- d. HP (status, new PO's)
- e. Biomedical: St. Jude/Illumina projects
- f. Bell Labs/ASM/Applied project

EXHIBIT

6

**Minutes of the Special Meeting of the
Board of Directors of Optical Switch Corporation**
April 11, 2000

A special meeting of the Board of Directors (the "Board") of Optical Switch Corporation (the "Company" or "OSC") was held on April 11, 2000 at the offices of the Company. Chairman Gary P. Nabhan, was present. William K. Woodruff, III, Don Navarro, and Daniel J. Sullivan, Jr. attended by telephone. Cynthia Lee Dow attended in her capacity as Assistant Secretary.

Mr. Nabhan called the meeting to order at 1:10 p.m. Mr. Nabhan moved that advanced notice of the meeting be waived. The motion was seconded by Mr. Sullivan, and the motion was passed unanimously. All members of the Board were present.

Mr. Nabhan discussed that the purpose of the meeting was to discuss the proposed acquisition of Holographic Lithography Systems, Inc. ("HLS") in Bedford, MA. The proposed terms of the acquisition was the exchange of \$50 million worth of convertible preferred stock, approximately 1,096,747 shares, of Optical Switch Corporation for all of the Preferred and Common Stock of HLS.

Mr. Nabhan presented the major reasons for the acquisition. The first reason discussed was the use of HLS' patent-pending process to produce components for OSC's Kaleidoscope project that will improve the performance of the Kaleidoscope design family. The second reason that Mr. Nabhan presented was the use of HLS' process to produce structures that will enable the next generation solid state all-optical switch. The Board discussed the reasons for the acquisition.

The Board discussed various business and legal considerations relating to the proposed acquisition. The Board discussed the existing and potential conflicts raised by the proposed acquisition due to the participation of Msrs. Nabhan, Sullivan and Woodruff in HLS' business as officers, directors and/or major shareholders. The Board further discussed the advisability of appointing a Special Committee of the Board to evaluate the transaction and in so doing, to engage a reputable investment bank to render an opinion regarding the fairness of the acquisition to OSC's shareholders not affiliated with HLS. The Board discussed that Don Navarro, as the independent director, was the appropriate director to serve as the Special Committee.

In the course of this discussion, Mr. Nabhan reported to the Board that during OSC's recent private offering he spoke with nearly all of the investors of the Series B Convertible Preferred Stock of OSC (the "Series B") regarding the proposed transaction before their investments were completed, and that every investor in the Series B received a Supplement to the Private Placement Memorandum that described the proposed transaction prior to the close of the private offering on March 31, 2000.

The Board then discussed a letter of intent setting forth the terms of the proposed transaction between HLS and OSC. Mr. Navarro moved that the issuance of a letter of

intent, containing qualifications regarding the approval of the transaction by the Special Committee, be approved. Mr. Nabhan seconded the motion, and it was passed unanimously by the Board.

There being no further business before the Board, the meeting adjourned at 1:35 p.m.

**RESOLUTIONS
ADOPTED BY
THE BOARD OF DIRECTORS OF
OPTICAL SWITCH CORPORATION
ON
APRIL 11, 2000**

WHEREAS, the management of Optical Switch Corporation ("OSC") is currently engaged in discussions and negotiations with the management of Holographic Lithography Systems, Inc. ("HLS") regarding a proposal (the "Proposal") with respect to a transaction or transactions (the "Proposed Transactions") pursuant to which the assets and operations of HLS would be combined with the assets and operations of OSC;

WHEREAS, although the exact structure of the Proposed Transactions has not been determined, it is expected that such transactions may involve (i) the merger of HLS with a subsidiary of OSC and (ii) the issuance by OSC to the former shareholders of HLS of an appropriate number of shares of preferred stock of OSC;

WHEREAS, certain actual and potential conflicts exist, including but not limited to the following: Gary P. Nabhan, the Chairman, President and CEO and a major shareholder of OSC, is also a member of the Board of Directors and shareholder of HLS; William K. Woodruff, OSC's largest shareholder and a member of OSC's Board of Directors, is also a holder of more than ten percent (10%) of the stock of HLS, and Daniel J. Sullivan, a member of OSC's Board of Directors and shareholder of OSC, is also the Chairman, President and CEO of HLS and holder of approximately thirty percent (30%) of HLS's outstanding capital stock; and

WHEREAS, the Board of Directors of OSC has determined that it is advisable and in the best interests of OSC that a special committee of independent directors be appointed in connection with the consideration of the Proposal and the Proposed Transactions;

NOW, THEREFORE, BE IT RESOLVED, that Dan Navarro is hereby appointed as a special committee (the "Special Committee") of the Board of Directors established for the purpose of considering and making recommendations to the Board of Directors with respect to the Proposal and the Proposed Transactions; and further

RESOLVED, that the principal duties of the Special Committee shall be to review and consider the terms and conditions of the Proposed Transactions to determine whether they are fair to, and in the best interests of, OSC and its shareholders (other than shareholders who are affiliated with HLS); and further

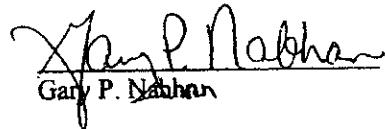
RESOLVED, that, in making such determination, the Special Committee shall conduct such investigations and analyses as it shall deem necessary or appropriate under the circumstances and, in doing so, shall give due consideration to (i) the alternative transactions, if any, that are available to OSC if the Proposed Transactions are not consummated and (ii) whether the value of the assets and operations of HLS is equal to or greater than the value of the shares of capital stock of OSC to be issued in the Proposed Transactions; and further

RESOLVED, that, in discharging its duties as described herein, the Special Committee shall have all the power, authority and privileges of the Board of Directors necessary to perform such duties, including, but not limited to, the power and authority (i) to engage in discussions with the managements of OSC and HLS regarding the Proposed Transactions and make recommendations regarding such changes in the terms of such transactions as the Special Committee shall deem necessary or appropriate; (ii) to obtain and review the management, financial and operating records of OSC and HLS and such other information regarding OSC and HLS as the Special Committee shall deem necessary or appropriate; (iii) to retain, at the expense of OSC, an independent financial advisor and such other advisors as the Special Committee shall deem necessary or appropriate to assist it the performance of such duties; and (vi) to incur, for the account of OSC, such other costs and expenses as are necessary or appropriate in connection with the performance of such duties; and further

RESOLVED, that the Special Committee is hereby directed to make such reports to the Board of Directors regarding the progress and results of its consideration of the Proposed Transactions as shall be requested by the Board of Directors from time to time; and further

RESOLVED, that the approval by the Special Committee of the Proposed Transactions shall be a condition to the ratification and approval thereof by the Board of Directors; and further

RESOLVED, that the officers of OSC are hereby authorized to issue a Letter of Intent to HLS regarding the Proposed Transactions reflecting a purchase price of approximately \$50 million, and reflecting that consummation of the Proposed Transactions is subject to due diligence, the receipt of a fairness opinion acceptable to the Special Committee regarding the Proposed Transactions, and the findings of the Special Committee.


Gary P. Nathan

Don Navarro

Daniel J. Sullivan, Jr.


William K. Woodruff, III

05/17/2000 14:06 7812764074

HLS

PAGE 83/83

RESOLVED, that the officers of OSC are hereby authorized to issue a Letter of Intent to HLS regarding the Proposed Transactions reflecting a purchase price of approximately \$50 million, and reflecting that consummation of the Proposed Transactions is subject to due diligence, the receipt of a fairness opinion acceptable to the Special Committee regarding the Proposed Transactions, and the findings of the Special Committee.

Gary P. Nabhn

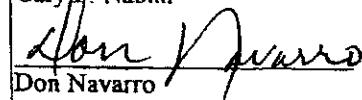
Don Navarro

Daniel L. Sullivan, Jr.

William K. Woodruff, III

RESOLVED that the officers of OSC are hereby authorized to issue Letter of Intent to HLS regarding the Proposed Transactions reflecting a purchase price of approximately \$50 million, and reflecting that consummation of the Proposed Transactions is subject to due diligence, the receipt of a fairness opinion acceptable to the Special Committee regarding the Proposed Transactions, and the findings of the Special Committee.

Gary E. Nabhn


Don Navarro

Daniel J. Sullivan, Jr.

William K. Woodruff, III

EXHIBIT

7

Kerry C. L. North
Managing Director



Wasserstein Perella & Co., Inc.
100 Crescent Court, Suite 630
Dallas, Texas 75201
Telephone 214-871-3744
Fax 214-871-3749

May 18, 2000

Special Committee of the Board of Directors
Optical Switch Corporation
880 N. Dorothy Drive
Suite 804
Richardson, TX 75081

Special Committee of the Board:

You have asked us to advise you with respect to the fairness, from a financial point of view, to Optical Switch Corporation (the "Company") of the Acquisition Consideration (as defined below) provided for pursuant to the terms of the Asset Purchase Agreement (the "Acquisition Agreement"), among the Company, Holographic Lithography Systems, Inc. (the "Target") and certain securityholders of the Target. The Acquisition Agreement provides for, among other things, the acquisition by the Company of substantially all the assets, subject to substantially all of the liabilities, of Target (the "Acquisition") in consideration of (i) the issuance by the Company to Target of up to an aggregate of 1,089,937 shares of Series B Convertible Preferred Stock, par value \$0.0001 per share, of the Company ("Series B Stock"), consisting of (x) 1,020,115 shares of Series B Stock to be issued and delivered at closing of the Acquisition, and (y) up to 69,822 shares of Series B Stock to be issued and delivered upon the final disposition of the Hobbs Litigation (as defined in the Acquisition Agreement) to which the Target is a party, and (ii) the issuance by the Company to certain employees of Target of Substitute Stock Options (as defined in the Acquisition Agreement) to purchase an aggregate of 60,488 shares of Series B Stock at average exercise price of \$1.54 per share (such shares of Series B Stock and such Substitute Stock Options are collectively referred to as the "Acquisition Consideration"). The terms and conditions of the Acquisition are set forth in more detail in the Acquisition Agreement.

In connection with rendering our opinion, we have reviewed a draft dated May 17, 2000 of the Acquisition Agreement, and for purposes hereof, we have assumed that the final form of this document will not differ in any material respect from the draft provided to us. We have also reviewed and analyzed certain business and financial information relating to the Target and the Company for recent years and interim periods to date, as well as certain internal financial and operating information, including financial forecasts, analyses and projections prepared by or on behalf of the Target and Company and provided to us for purposes of our analysis, and we have met with management of the Target and Company to review and discuss such information and, among other matters, the Target's and Company's business, operations, assets, financial condition and future prospects.

We have reviewed and considered certain financial data relating to the Target and Company, and we have compared that data with similar data for certain other companies, the securities of which are publicly traded, that we believe may be relevant or comparable in certain respects to the Target or Company or one or more of their respective businesses or assets, and we have reviewed and considered the financial terms of certain recent acquisitions and business

combination transactions in the fiber optics and semiconductor capital equipment industries specifically, and in other industries generally, that we believe to be reasonably comparable to the Acquisition or otherwise relevant to our inquiry. In this connection, we note that the securities of companies in these industries, like those of other technology-related companies, have been and are likely to continue to be subject to significant short-term price and trading volatility. We have also performed such other financial studies, analyses, and investigations and reviewed such other information as we considered appropriate for purposes of this opinion.

In our review and analysis and in formulating our opinion, we have assumed and relied upon the accuracy and completeness of all of the historical financial and other information provided to or discussed with us or publicly available, and we have not assumed any responsibility for independent verification of any of such information. We have also assumed and relied upon the reasonableness of the financial projections, forecasts and analyses provided to us, and we have assumed that such projections, forecasts and analyses were reasonably prepared in good faith and on bases reflecting the best currently available judgments and estimates of the Target's and Company's management. We express no opinion with respect to such projections, forecasts and analyses or the assumptions upon which they are based. In addition, we have not reviewed any of the books and records of the Target or Company (other than as described above), or assumed any responsibility for conducting a physical inspection of the properties or facilities of the Target or Company, or for making or obtaining an independent valuation or appraisal of the assets or liabilities of the Target or Company, and no such independent valuation or appraisal was provided to us. We are not experts in the evaluation of litigation or other actual or threatened claims, and we have assumed that the Hobbs Litigation will not have a material adverse effect on the business, prospects, assets, liabilities, financial condition or results of operations of either HLS or OSC. We note that the Acquisition is intended to qualify as a tax free reorganization for United States Federal tax purposes, and we have assumed that OSC will not have any liability if the Acquisition fails to so qualify. We have assumed that the transactions described in the Acquisition Agreement will be consummated without waiver or modification of any of the material terms or conditions contained therein by any party thereto. Our opinion is necessarily based on economic and market conditions and other circumstances as they exist and can be evaluated by us as of the date hereof.

Our opinion addresses only the fairness from a financial point of view to Company of the Acquisition Consideration provided for pursuant to the Acquisition Agreement, and we do not express any views on any other terms of the Acquisition. Specifically, our opinion does not address Company's underlying business decision to effect the transactions contemplated by the Acquisition Agreement.

It is understood that this letter is solely for the benefit and use of the Special Committee of the Board of Directors of Company in its consideration of the Acquisition and may not be relied upon by any other person, and may not be disseminated, quoted, referred to or reproduced at any time or in any manner without our prior written consent.

Based upon and subject to the foregoing, including the various assumptions and limitations set forth herein, it is our opinion that, as of the date hereof, the Acquisition Consideration provided for pursuant to the Acquisition Agreement is fair to Company from a financial point of view.

Very truly yours,

WASSERSTEIN PERELLA & CO., INC.

Wasserstein Perella & Co., Inc.

EXHIBIT

8

**Minutes of the Special Meeting of the
Board of Directors of Optical Switch Corporation**
May 18, 2000

A special meeting of the Board of Directors (the "Board") of Optical Switch Corporation (the "Company" or "OSC") was held on May 18, 2000 at the offices of the Company. Directors present were Gary P. Nabhan, William K. Woodruff, III and Don Navarro. Daniel J. Sullivan, Jr. attended by telephone. Cynthia Lee Dow attended in her capacity as Assistant Secretary. Also attending as counsel for the Special Committee and for the Company from Baker Botts were David Monk and Geoffrey L. Newton. Attending as advisers to the Special Committee on the acquisition of Holographic Lithography Systems, Inc. ("HLS") were Kerry L. North, Andrew Hill, and Keith Behrens, all of Wasserstein Perella & Co..

Mr. Nabhan called the meeting to order at 7:10 p.m. Mr. Navarro moved that advanced notice of the meeting be waived. The motion was seconded by Mr. Woodruff, and approved unanimously by the Board. All members of the Board were present.

Mr. Nabhan introduced Ms. Dow as Vice President & General Counsel of the Company and advised all present that she would be recording the minutes of the meeting.

Mr. Navarro then introduced Wasserstein Perella as the investment banking advisers and Baker Botts, LLP as the legal advisers to the Independent Committee appointed at the previous meeting to review and make a recommendation regarding the fairness and advisability of the acquisition of Holographic Lithography Systems, Inc. (the "Proposed Acquisition").

Mr. Nabhan described the agenda, a copy of which is attached hereto as Exhibit A. He announced that the first order of business would be matters related to the Proposed Acquisition because Mr. Navarro would be required to leave at 7:40 p.m., and would, therefore, have to present the findings of the Special Committee and indicate his vote on matters before the Board prior to that time.

Mr. Nabhan presented an overview of the purpose of the Proposed Acquisition. He explained the benefits of the Proposed Acquisition to OSC as three-fold: (1) the HLS technology would have immediate benefits for OSC's existing switch designs; (2) the HLS technology would play a role in OSC's development of next generation switching solutions; and (3) HLS was expected to have a stream of revenues over the next year that would help to finance the acquisition.

Mr. Nabhan recounted that on April 11, 2000 Mr. Navarro was appointed as the Special Committee to review and evaluate the Proposed Acquisition. The Special Committee in turn was empowered to and did retain Wasserstein Perella to conduct a review of the fairness of the Proposed Acquisition and to issue an opinion regarding its fairness to OSC's minority, disinterested shareholders. As well, the Special Committee engaged

Baker Botts as counsel to advise it regarding the execution of its duty to review the Proposed Acquisition.

Mr. Navarro presented a report of the activities and conclusions of the Special Committee. He stated that in his capacity as the Special Committee, he met extensively with Baker Botts and with Wasserstein Perella, and had arrived at his conclusions regarding the Proposed Acquisition independently from the other members of the Board. In doing so, he reviewed the opinion of Wasserstein Perella regarding fairness. As well, he stated that his review was informed by past business experience in preparing fairness opinions himself, and in chairing other committees established for the purpose of reviewing fairness in business transactions. Based on this experience and his work in this particular instance, he believes he is qualified to carry out the duties of the Special Committee. He then stated that Wasserstein Perella would present the rationale for its opinion regarding the fairness of the Proposed Acquisition, following which questions would be welcomed.

Before Wasserstein Perella made its presentation, Mr. Newton, a corporate partner from Baker Botts, LLP, first presented the Proposed Acquisition. He confirmed that each Board member was familiar with the Acquisition Agreement governing the Proposed Acquisition (the "Agreement"), in that each had received, reviewed and discussed a draft of the Agreement. He stated that Baker Botts had made some revisions to the Agreement and that copies were available at this meeting, and questions regarding the Agreement were welcome.

Mr. Newton then described the structure of the Proposed Acquisition as an acquisition of the assets and liabilities of HLS excluding any tax liability. He described that HLS would be adopting a plan of liquidation. In connection with the Proposed Acquisition and subsequent liquidation, HLS would receive stock from OSC, transfer its assets to OSC, and then distribute the OSC stock to its shareholders in order to liquidate. HLS would be receiving approximately \$50 million worth of Series B Convertible Preferred Stock ("Series B") at \$45.58 per share, the price as set in the private placement completed by OSC on March 31, 2000.

Mr. Newton reported the OSC stock issued to HLS in the Proposed Acquisition would be issued in several installments. Initially, approximately 1,020,115 shares would be issued to HLS. 69,822 shares of Series B would be placed in escrow pending the outcome of litigation between HLS and one of its shareholders and former employees, Douglas Hobbs (the "Hobbs Litigation"). Finally, HLS' option holders would receive substitute options on Series B under substantially the same terms as their existing option agreements.

Mr. Newton discussed that the Proposed Acquisition was intended to be a tax-free transaction, and that OSC and HLS had made certain covenants in the Agreement relating to obligations after the Proposed Acquisition designed to maintain the tax-free treatment of the Proposed Acquisition. Among other things, HLS will agree to promptly distribute its assets to its shareholders, and OSC will agree that it will not redeem any stock issued

in the Proposed Acquisition for cash. Both Baker Botts as counsel for OSC and Bingham Dana, LP as counsel for HLS have agreed to issue an opinion at closing that the Proposed Acquisition is tax-free if conducted in accordance with the Agreement.

Mr. Newton then described the Hobbs Litigation, and the provisions of the Agreement designed to reduce the exposure to OSC's shareholders. Mr. Hobbs was dismissed in February 1999. Since his termination, HLS has exercised its right to repurchase 9,375 shares of HLS Common Stock from Hobbs under the terms of Hobbs employment agreement and a settlement agreement between Hobbs and HLS relating to his termination. The Agreement provides that the equivalent number of shares of OSC stock plus additional shares allocated for payment of litigation expenses are placed in escrow. The escrowed shares will be released and allocated to HLS and OSC in a manner designed to create appropriate rewards and incentives to each company for its role in the litigation. Upon resolution of the litigation, 80% of the stock remaining, following payment of the litigation expenses, will be delivered to HLS, and the balance to OSC.

Mr. Newton also noted that the Agreement contains indemnifications by HLS, its shareholders and OSC in favor of each other. The Agreement contains representations and warranties which, if breached, will trigger liability to other parties to the Agreement.

Mr. Newton and Mr. Nabhan discussed the schedule for closing the Proposed Acquisition as Friday, May 19, 2000, if the tax opinion by Bingham Dana were not required to be delivered before closing.

Mr. North, a Managing Director of Wasserstein Perella, next presented Wasserstein Perella's analysis of the fairness of the transaction to OSC's minority shareholders. The Wasserstein Perella presentation included a brief background of the transaction, followed by an analysis of the value of the deal under various pricing models. Mr. North discussed the assumptions and methodologies underlying the analysis of the value of OSC's and HLS' stock. With respect to OSC in particular, he highlighted the recent private placement of the Series B stock, the subsequent decline of the stock market, and the persistent risks relating to OSC's product development efforts and supply chain. Mr. North also reported Wasserstein Perella's conclusion that the Proposed Acquisition would be accretive to OSC's shareholders.

Discussion ensued between Keith Behrens of Wasserstein Perella and Mr. Woodruff regarding the methodologies employed by Wasserstein Perella, including the companies considered comparable to OSC and HLS. Mr. Woodruff and Mr. Nabhan also discussed some of the negative events affecting OSC's progress since the private placement.

Mr. Woodruff asked follow-up questions regarding the representations and warranties in the Agreement and the litigation exposure. He inquired about the analysis of the litigation and its potential impact upon OSC's progress. Mr. Nabhan asked Ms. Dow to briefly describe the due diligence conducted on the litigation. Ms. Dow reported that OSC engaged Bingham Dana to analyze the litigation risk and to educate OSC on it. Ms. Dow further indicated that the Agreement provides OSC with full authority to conduct

the litigation, including control over counsel, settlement decisions, and strategic decisions.

Mr. Navarro stated that after reviewing the Proposed Acquisition since mid-April and the analysis by Wasserstein Perella including their opinion that the Proposed Acquisition is fair to OSC's minority shareholders, he recommends the Proposed Acquisition be approved by the Board.

After some additional discussion with Wasserstein Perella regarding the financial analysis, Mr. Nabhan inquired and confirmed that Mr. Woodruff had had his questions answered.

Before moving for approval, Mr. Navarro pointed to the fact that the Proposed Acquisition would dilute the percentage ownerships of Messrs. Nabhan and Woodruff.

Mr. Navarro moved that the resolutions relating to the Special Committee, the engagement of Wasserstein Perella by the Special Committee, and the Proposed Acquisition under the Agreement be approved. Mr. Woodruff seconded. A unanimous vote in favor followed.

Mr. Navarro indicated that he had seen all attachments to the proposed Board resolutions and was voting in favor of the remaining matters before the Board on which he had been briefed.

Wasserstein Perella and Mr. Navarro departed at 8:25 pm.

Mr. Newton reiterated that Mr. Navarro had ratified the Agreement orally, and reported that the Agreement may be modified somewhat to reflect the resolution of minor outstanding points between HLS and OSC. Mr. Nabhan moved to approve the Agreement. Mr. Woodruff seconded, and the Agreement was approved unanimously.

At 8:50 pm, Elizabeth Drigotas from Baker Botts joined the meeting by telephone. Messrs. Sullivan, Nabhan and Woodruff were still in attendance as directors. Ms. Dow was in attendance as Assistant Secretary and Vice President & General Counsel. Mr. Newton and Mr. Monk were still in attendance as corporate outside counsel for the Company.

Mr. Nabhan stated that the next item of business before the Board was discussion and a vote on the new Long Term Incentive Plan (the "Plan"). Ms. Drigotas, as benefits counsel for the Company, was asked to present the Plan. Ms. Drigotas explained that the Plan was in some respects very similar to the 1997 Stock Option Plan in that it provides a vehicle for awards of options and restricted stock as incentives to employees, consultants and directors of the Company. The Plan also includes new equity compensation incentive vehicles such as cash-based stock appreciation rights and phantom stock rights.

Ms. Drigotas described that the form of option agreement to the Plan also contains several new features: it defines recapitalization to state expressly what is understood in the industry – that additional injections of equity financing into the Company does not constitute a recapitalization; it allows option agreements to contain a “double trigger” provision that strikes a balance between retaining employees and protecting those employees from detrimental action following a corporate change. The Plan and form of agreement also contain additional control mechanisms for the Company including rights to repurchase stock, rights of first refusal, a clawback provision in the event of breach of confidentiality and non-competition agreements. The shares issued under the Plan will be legended to indicate the restrictions.

Mr. Nabhan requested that Ms. Drigotas explain the stock appreciation rights and phantom stock rights in greater detail, which she did.

The Board briefly raised the possibility of implementing a stock purchase plan in the event the Company makes a public offering. The Board discussed the number of shares authorized by the Long Term Incentive Plan. The Board also discussed the fact that the number of shares authorized is greater than the number permitted to go to the employee pool, but that the previously resolved limit of 20% of outstanding stock as the employee stock option pool remained in effect.

Mr. Monk presented the resolution approving the Long Term Incentive Plan. Mr. Nabhan moved that the Board adopt the Long Term Incentive Plan. Mr. Sullivan seconded the motion, and the motion passed unanimously. The Board discussed that the Long Term Incentive Plan would need to be submitted to the shareholders for a vote within twelve months of this date. Mr. Nabhan moved that the Board authorize officers of the Company to submit the Long Term Incentive Plan to the shareholders for approval. Mr. Sullivan seconded the motion, and the motion passed unanimously.

The Board then discussed the OSC Substitute Option Plan intended to allow for substitute grants of options on Series B Convertible Preferred Stock (“Series B”) to the employees of HLS. Mr. Woodruff commented that he thought that the issuance of options on preferred stock was unusual. Ms. Drigotas of Baker Botts confirmed that it was unusual but nonetheless permissible. Mr. Nabhan discussed the fact that the issuance of options on Series B was a term of the Proposed Acquisition of HLS that was negotiated carefully between the companies, and that the holders of HLS common stock were to receive OSC Series B in the transaction. No more than 65,000 shares of Series B are issuable subject to options under the Substitute Option Plan.

The proposed resolutions relating to the adoption of the Substitute Option Plan were reviewed. Mr. Nabhan moved to adopt the resolutions. Mr. Sullivan seconded the motion, and the motion passed unanimously.

Mr. Monk presented proposed resolutions reserving shares of common stock for exercise of outstanding options and conversion of convertible preferred stock into common stock.

Mr. Nabhan moved to adopt the resolutions. Mr. Sullivan seconded the motion, and the motion passed unanimously.

Mr. Nabhan presented the proposed resolutions regarding specific grants of options under the Long Term Incentive Plan. Ms. Dow was requested to and did leave the room so the Board could discuss the proposed grants. The reasons for the grants were discussed by the Board. Mr. Nabhan moved to approve the resolutions relating to specific grants. Mr. Sullivan seconded, and the motion passed unanimously.

Finally, Mr. Nabhan moved that the Board adopt the miscellaneous proposed resolutions granting officers of the Company general authority to effect the business approved by the Board. Mr. Nabhan moved to approve the resolutions relating to specific grants. Mr. Sullivan seconded, and the motion passed unanimously.

There being no further business before the Board, the meeting adjourned at 10:15 p.m.

EXHIBIT A

OPTICAL SWITCH CORPORATION

**OUTLINE OF BOARD ACTION TO BE TAKEN
AT THE MEETING OF THE BOARD OF DIRECTORS
TO BE HELD ON MAY 18, 2000**

1. Receive Special Committee Resolutions
2. Approval of engagement of Wasserstein Perella
3. Approval of the acquisition of the Assets and assumption of liabilities of HLS
 - Approve Asset Purchase Agreement
 - Approve other Applicable Transaction Documents
 - Authorize officers to execute and deliver such agreements and documents with any changes that they deem appropriate
4. Approval and adoption of the Substitute Option Plan
 - Adopt plan
 - Authorize issuance of 60,488 shares of Series B Preferred Stock under the plan
 - These options will replace options previously issued by HLS to HLS employees who join OSC
 - Appoint committee to administer the Subsittute Plan
 - Grant authority to committee to issue options exercisable for up to 60,488 shares of Series B Preferred Stock
5. Reservation of Preferred Stock
 - Reserve 60,488 shares of Series B Preferred (issuable upon exercise of Substitute Options)
6. Approval and adoption of Long-Term Incentive Plan
 - Adopt plan
 - Resolve to submit for shareholder approval within the next 12 months
 - Approve grants of awards (Attached Exhibit E)
 - Appoint a committee to administer the Plan
7. Reservation of Common Stock
 - Reserve 2,434,330 shares for issuance on conversion of outstanding Series B Preferred
 - Reserve 8,500,000 shares for issuance on conversion of outstanding Series A Preferred
 - Reserve [1,137,368] shares issuable on exercise of options previously granted under 1997 Stock Option Plan
 - Reserve 5,000,000 shares issuable on exercise of options granted under, or grant of other awards pursuant to, the new Plan
 - Reserve 178,800 shares issuable upon exercise of outstanding non-plan options held by Phase III and Don Navarro.

**OPTICAL SWITCH CORPORATION
a Texas corporation**

**RESOLUTIONS ADOPTED AT
A SPECIAL MEETING OF
THE BOARD OF DIRECTORS
HELD ON MAY 18, 2000**

Set forth below are the resolutions considered and adopted by the members of the Board of Directors of Optical Switch Corporation, a Texas corporation (the "Company"), at a special meeting held on Thursday, May 18, 2000, at which all of the members of the Board of Directors of the Company (the "Board of Directors") were present:

Proposed Transaction

WHEREAS, the managements of the Company and Holographic Lithography Systems, Inc., a Delaware corporation ("HLS"), have engaged in discussions regarding a proposed transaction pursuant to which the Company would acquire substantially all of the assets of HLS in consideration for the issuance of certain shares of capital stock of the Company and the assumption by the Company of certain liabilities and obligations of HLS (the "Proposed Transaction");

WHEREAS, it is contemplated that the Proposed Transaction would be effected through (i) the conveyance by HLS of substantially all of its assets to the Company and the assumption by the Company of all but certain specified liabilities and obligations of HLS and (ii) the issuance by the Company to HLS of certain shares of capital stock of the Company;

WHEREAS, at a meeting of the Board of Directors of the Company held on April 11, 2000, the Board of Directors took action to appoint Mr. Donald Navarro to serve as a special committee of the Board of Directors (the "Special Committee") established for the purpose of considering and making recommendations to the Board of Directors of the Company with respect to the Proposed Transaction;

WHEREAS, it is proposed that the Company engage Wasserstein Perella & Co. ("Wasserstein Perella") as financial advisor for purposes of rendering an opinion to the Special Committee and the Board of Directors as to the fairness of the Proposed Transaction to the Company and its shareholders;

WHEREAS, on the date hereof, Wasserstein Perella has delivered its opinion addressed to the Special Committee and the Board of Directors to the effect that the Proposed Transaction is fair to the Company and its shareholders;

WHEREAS, on the date hereof, the Special Committee has determined that the Proposed Transaction is fair to, and in the best interests of, the Company and its shareholders and has recommended that the Board of Directors of the Company approve such transaction; and

WHEREAS, the Special Committee has provided to the Board of Directors on the date hereof an oral report (the "Special Committee Report") confirming and explaining the aforementioned determination and recommendation of the Special Committee and setting forth certain of the factors and bases considered by the Special Committee in arriving at such determination and recommendation;

Ratification of Engagement of Wasserstein Perella

NOW, THEREFORE, BE IT RESOLVED, that the engagement of Wasserstein Perella as financial advisor for purposes of rendering an opinion to the Special Committee and the Board of Directors as to the fairness of the Proposed Transaction to the Company and its shareholders is hereby ratified and approved; and

FURTHER RESOLVED, that the Board of Directors hereby approves the form, terms and provisions of the letter agreement (the "Engagement Letter") between Wasserstein Perella and the Company, copies of which have been distributed at the meeting of the Board of Directors on the date hereof and the terms of which have been summarized and discussed at such meeting; and

FURTHER RESOLVED, that the appropriate officers of the Company are hereby authorized, empowered and directed, for and on behalf of the Company, to execute and deliver the Engagement Letter; and

FURTHER RESOLVED, that the appropriate officers of the Company are hereby authorized, empowered and directed, for and on behalf of the Company, to perform the terms and provisions of the Engagement Letter; and

Determination of the Board

FURTHER RESOLVED, that, after consideration of each of the factors and bases set forth in the Special Committee Report, the Board of Directors hereby determines by unanimous vote of all of its members that the Proposed Transaction is fair to, and in the best interests of, the Company and its shareholders; and

Asset Purchase Agreement

WHEREAS, the Board of Directors has reviewed a draft of an Asset Purchase Agreement (the "Agreement") proposed to be entered into by and among the Company, HLS and the Designated Security Holders (as defined in the Agreement) of HLS in substantially the form attached hereto as Exhibit A, pursuant to which (i) HLS will sell, assign, transfer, convey and deliver substantially all of the assets to the Company and the Company will purchase, acquire, receive and accept such assets from HLS in exchange for capital stock of the Company in a transaction intended to qualify as a reorganization of the type described in section 368(a)(1)(C) of the Internal Revenue Code (as defined in the Agreement) and (ii) the Company will assume,

and agree to pay, perform and discharge, all debts, claims, liabilities, obligations, damages and expenses of HLS of every kind and nature (whether known, unknown, contingent, absolute, determined, undetermined or indeterminable on the Closing Date (as defined in the Agreement)), other than certain liabilities enumerated in the Agreement, including, but not limited to, any debts, claims, liabilities, obligations, damages, taxes or expenses of HLS, arising under the terms of the Agreement or any of the Transaction Documents (as defined in the Agreement) or arising as a result of HLS's transfer of substantially all of its assets to the Company, and has considered and discussed the transactions contemplated thereby, including, but not limited to, (i) the Applicable Transaction Documents (as defined in the Agreement) and (ii) the issuance of shares of Preferred Stock, par value \$0.0001 per share ("Preferred Stock") designated as Series B Convertible Preferred Stock ("Series B Preferred Stock") pursuant to the Agreement;

NOW, THEREFORE, IT IS HEREBY RESOLVED, that the Board of Directors hereby approves the form, terms and provisions of the Agreement; and

FURTHER RESOLVED, that the appropriate officers of the Company are hereby authorized, empowered and directed, in the name of, and on behalf of the Company, to execute and deliver the Agreement and the Applicable Transaction Documents, with such changes therein as the officer executing the same may approve (such approval to be evidenced by the execution thereof), and to execute such other instruments, agreements, amendments, certificates and any other documents, and to take such further action as may be necessary or desirable to consummate the transactions contemplated by the Agreement and the Applicable Transaction Documents, to cause the Company to perform its obligations thereunder, and otherwise to effect the purposes of the foregoing resolutions; and

FURTHER RESOLVED, that at the Closing (as defined in the Agreement) the Company is hereby authorized to issue 1,020,115 shares of Series B Preferred Stock to HLS as the Initial Consideration pursuant to the Agreement and the transactions contemplated thereby; and

FURTHER RESOLVED, that the Company is hereby authorized to (i) select and engage an Escrow Agent (as defined in the Agreement) jointly with HLS for the purposes set forth in the Agreement, including, without limitation, Section 2.3 thereof, (ii) enter into an Escrow Agreement (as defined in the Agreement) upon such terms as the appropriate officers of the Company shall determine to be reasonable and appropriate and in the best interests of the Company (such determination to be conclusively evidenced by their execution and delivery of the Escrow Agreement, and (iii) issue 69,822 shares of Series B Preferred Stock to the Escrow Agent, as trustee, such shares to be held in escrow pending a Final Disposition of the Hobbs Litigation (each as defined in the Agreement) pursuant to the Agreement and thereafter to be distributed in accordance with the terms of the Agreement; and

Optical Switch Corporation Substitute Stock Option Plan

WHEREAS, pursuant to the Agreement, the Company has agreed to establish the Optical Switch Corporation Substitute Stock Option Plan (the "Substitute Plan") for the purpose of providing substitute stock options to former participants in the Holographic Lithography Systems, Inc. 1998 Stock Incentive Plan (the "HLS Plan") who (i) become Company employees following the Company's acquisition of all, or substantially all, of HLS's assets and (ii) consent to the relinquishment of any options granted under the HLS Plan in exchange for the Company's grant of substitute options under the Substitute Plan; and

WHEREAS, the Board of Directors has determined that it is appropriate to appoint a committee (the "Substitute Plan Committee") to administer the Substitute Plan;

NOW, THEREFORE, IT IS HEREBY RESOLVED, that the Board of Directors hereby adopts the Substitute Plan, in substantially the form attached hereto as Exhibit B effective as of the date hereof, and

FURTHER RESOLVED, that the Board of Directors hereby appoints a Substitute Plan Committee, comprised of the persons reflected on the attached Exhibit C, to administer the Substitute Plan; and

FURTHER RESOLVED, that the Board of Directors hereby grants the Substitute Plan Committee the authority to authorize and approve the issuance of up to 65,000 shares of Series B Preferred Stock, in accordance with the Substitute Plan and the Agreement; and

Reservation of Preferred Stock

FURTHER RESOLVED, that there are hereby reserved for issuance out of the authorized but unissued shares of the Series B Preferred Stock, the maximum number of shares of Series B Preferred Stock as are issuable from time to time upon exercise of the options pursuant to the Substitute Plan (65,000 shares of Series B Preferred Stock are reserved for this purpose as of the date hereof), upon and subject to the conditions, limitations and qualifications, and after giving effect to any applicable anti-dilution provisions or other adjustments contained in or incorporated into the Certificate of Designation, Terms, Preferences and Rights of Series B Preferred Stock; and

Long Term Incentive Plan

WHEREAS, the Board of Directors has determined that it is in the best interests of the Company to provide a means to encourage stock ownership and a proprietary interest in the Company in order to attract and retain the best available personnel and to provide incentives to such personnel to promote the success of the business of the Company; and

WHEREAS, the Board of Directors has determined that the establishment of the Optical Switch Corporation Long Term Incentive Plan (the "Plan") which provides for the grant

of non-qualified stock options, incentive stock options and restricted stock will help the Company achieve these goals and is in the best interests of the Company; and

WHEREAS, the Board of Directors has determined that it is appropriate to grant incentive stock options under the Plan to certain employees;

NOW, THEREFORE, IT IS HEREBY RESOLVED, that the Board of Directors hereby adopts the Plan in substantially the form attached hereto as Exhibit D, effective as of the date hereof; and

FURTHER RESOLVED, that the Plan shall be submitted to the shareholders for approval within the next twelve months, provided that, if the Plan is approved within such twelve-month period, the effective date for the Plan shall remain May 18, 2000; and

Reservation of Common Stock

FURTHER RESOLVED, that there are hereby reserved for issuance out of the authorized but unissued shares of the common stock, par value \$0.0001 per share, of the Company ("Common Stock"), the maximum number of shares of Common Stock as are issuable from time to time upon conversion of the authorized shares of Series B Preferred Stock (2,434,330 shares of Common Stock are reserved for this purpose as of the date hereof), upon and subject to the conditions, limitations and qualifications, and after giving effect to any applicable anti-dilution provisions or other adjustments contained in or incorporated into the Certificate of Designation, Terms, Preferences and Rights of Series B Preferred Stock; and

FURTHER RESOLVED, that there are hereby reserved for issuance out of the authorized but unissued shares of Common Stock, the maximum number of shares of Common Stock as are issuable from time to time upon conversion of the authorized shares of Preferred Stock designated as "Series A Convertible Preferred Stock" (the "Series A Preferred Stock") (8,500,000 shares of Common Stock are reserved for this purpose as of the date hereof), upon and subject to the conditions, limitations and qualifications, and after giving effect to any applicable anti-dilution provisions or other adjustments contained in or incorporated into the Certificate of Designation, Terms, Preferences and Rights of Series A Preferred Stock; and

FURTHER RESOLVED, that there are hereby reserved for issuance out of the authorized but unissued shares of Common Stock, the maximum number of shares of Common Stock as are issuable from time to time upon the exercise of options granted by the Company for the purchase of Common Stock (3,615,030 shares of Common Stock are reserved for this purpose as of the date hereof); and

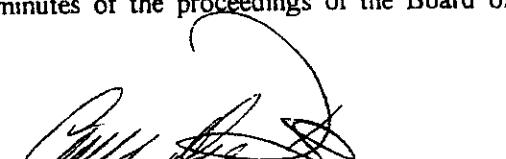
FURTHER RESOLVED, that the number of shares of Common Stock hereby reserved is the maximum number of shares of Common Stock issuable upon conversion of the Series B Preferred Stock and Series A Preferred Stock of the Company, and this reservation supersedes all previous reservations of shares of Common Stock for this purpose.

Miscellaneous

FURTHER RESOLVED, that the appropriate officers of the Company are hereby authorized, empowered and directed, for and on behalf of the Company, to take such actions and to execute and deliver such other agreements, instruments, certificates and documents as they shall determine are necessary or appropriate in order to carry out the purposes of the foregoing resolutions, each such determination to be conclusively evidenced by the taking of such actions or the execution and delivery of such other agreements, instruments, certificates and documents by the appropriate officers of the Company; and

FURTHER RESOLVED, that any actions taken by any of the officers of the Company with respect to the transactions contemplated by these resolutions prior to the date hereof, are hereby adopted and ratified as the authorized actions of the Company, as if such actions had been taken subsequent to the date of these resolutions.

IN WITNESS WHEREOF, the undersigned Assistant Secretary of the Company does hereby certify that the above resolutions were duly adopted by the unanimous vote of the members of the Board of Directors of the Company as of the date first written above and authorizes such resolutions to be filed with the minutes of the proceedings of the Board of Directors of the Company.



Cynthia Lee Dow

EXHIBIT

9

[EXECUTION COPY]

ASSET PURCHASE AGREEMENT

among

HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.,

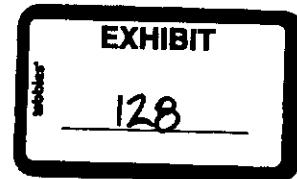
OPTICAL SWITCH CORPORATION

and

the DESIGNATED COMPANY STOCKHOLDERS named herein

Dated as of May 19, 2000

DAL02-265969.9



IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.

By: _____

Name: _____

Title: _____

PURCHASER:

OPTICAL SWITCH CORPORATION

By: Gary P. Nabhan
Name: Gary P. Nabhan
Title: Pres. & CEO

**DESIGNATED COMPANY
STOCKHOLDERS:**

Daniel J. Sullivan, Jr.

Robert Giordano

William M. McCarthy

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the date first above written.

COMPANY:

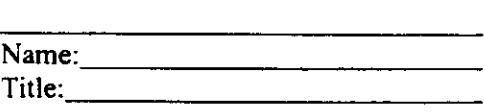
HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.

By: 

Name: DANIEL J. SULLIVAN JR
Title: PRESIDENT

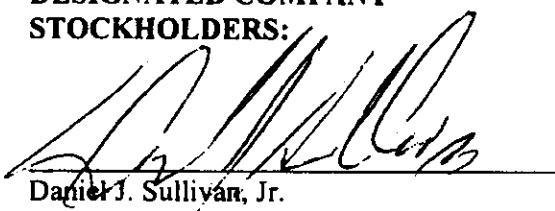
PURCHASER:

OPTICAL SWITCH CORPORATION

By: 

Name: _____
Title: _____

**DESIGNATED COMPANY
STOCKHOLDERS:**


Daniel J. Sullivan, Jr.

Robert Giordano

William M. McCarthy

IN WITNESS WHEREOF, the parties have caused this Agreement to be
duly executed as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.

By: _____

Name: _____

Title: _____

PURCHASER:

OPTICAL SWITCH CORPORATION

By: _____

Name: _____

Title: _____

**DESIGNATED COMPANY
STOCKHOLDERS:**

Daniel J. Sullivan, Jr.

Robert Giordano

Robert Giordano

William M. McCarthy

IN WITNESS WHEREOF, the parties have caused this Agreement to be
duly executed as of the date first above written.

COMPANY:

HOLOGRAPHIC LITHOGRAPHY SYSTEMS, INC.

By: _____

Name: _____

Title: _____

PURCHASER:

OPTICAL SWITCH CORPORATION

By: _____

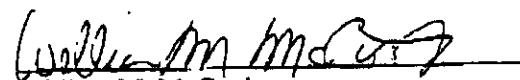
Name: _____

Title: _____

**DESIGNATED COMPANY
STOCKHOLDERS:**

Daniel J. Sullivan, Jr.

Robert Giordano



William M. McCarthy

Kathleen E McCarthy Trustee

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

James P. Note

Bruce MacLeod

Douglas S. Hobbs

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust



Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

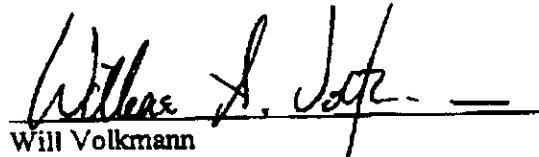
James P. Nole

Bruce MacLeod

Douglas S. Hobbs

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman



Willie S. Jofe

Will Volkmann

James R. Lewis

Michael J. Walsh

James P. Nole

Bruce MacLeod

Douglas S. Hobbs

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman

Will Volkmann



James R. Lewis

Michael J. Walsh

James P. Nole

Bruce MacLeod

Douglas S. Hobbs

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman

Will Volkmann

James R. Lewis


Michael J. Walsh

James P. Nole

Bruce MacLeod

Douglas S. Hobbs

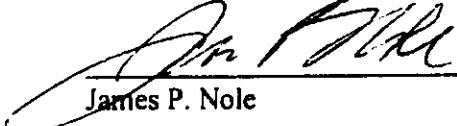
Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh



James P. Nole

Bruce MacLeod

Douglas S. Hobbs

Kathleen E. McCarthy, not individually but as
Trustee of The William McCarthy 1996 Children's
Trust

Barry Coffman

Will Volkmann

James R. Lewis

Michael J. Walsh

James P. Nole

Bruce MacLeod
Bruce MacLeod

Douglas S. Hobbs

WOODRUFF FAMILY, LTD.

X By: William K. Woodruff, G.P.
Name: William K. Woodruff
Title: GENERAL PARTNER

GPN INVESTMENTS

By: _____
Name: _____
Title: _____

Brooks Cullum

ANIGIAN FAMILY PARTNERSHIP

By: _____
Name: _____
Title: _____

WOODRUFF FAMILY, LTD.

By: _____
Name: _____
Title: _____

GPN INVESTMENTS

By: X Gary P. Nabhan
Name: Gary P. Nabhan
Title: President + CEO

Brooks Cullum

ANIGIAN FAMILY PARTNERSHIP

By: _____
Name: _____
Title: _____

DAL02 265969.8

WOODRUFF FAMILY, LTD.

By: _____

Name: _____

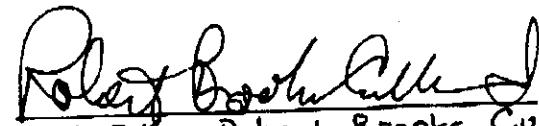
Title: _____

GPN INVESTMENTS

By: _____

Name: _____

Title: _____



Robert Brooks Cullum, Jr.

ANIGIAN FAMILY PARTNERSHIP

By: _____

Name: _____

Title: _____

EXHIBIT

10

The Commonwealth of Massachusetts

William Francis Galvin
 Secretary of the Commonwealth
 One Ashburton Place, Boston, Massachusetts 02108-1512
 Telephone: (617) 727-9640

FEE: \$85.00

NOTE: PLEASE TYPE OR PRINT CLEARLY! INSTRUCTIONS ON OTHER SIDE.

MASSACHUSETTS FOREIGN CORPORATION ANNUAL REPORTFederal Identification No. 75-2710800/00072411661. The exact name of the corporation is: Optical Switch Corporation2. The corporation is organized under the laws of: Texas3. Location of its principal office is: 930 E Campbell Rd

(number and street)

Richardson

(city or town)

Texas75081

(zip)

4. The location of its Massachusetts office, if any: 65 Wiggins Ave

(number and street)

BedfordMassachusetts01730

(city or town)

(state)

(zip)

5. Name and address of the Resident Agent is: CT Corporation System

(name)

101 Federal StreetBostonMA02110

(number and street)

(city or town)

(state)

(zip)

6. Date of the end of the last fiscal year was: December31, 2000

(month)

(day)

(year)

7. Check here if the corporation stock is publicly traded:

8. The capital stock of each class as of the end of its last fiscal year was:

CLASS OF STOCK	PAR VALUE PER SHARE STATE IF NO PAR	TOTAL AUTHORIZED BY ARTICLES OF ORGANIZATION OR AMENDMENTS		TOTAL ISSUED AND OUTSTANDING
		Number of Shares	Total Par Value	
COMMON:	\$.0001	100,000,000	\$10,000.00	7,625,710
PREFERRED: A	\$.0001	8,500,000	\$850.00	8,382,866
B	\$.0001	2,434,330	\$243.43	2,373,792

9. State the names and addresses of the officers specified below and of all the directors of the corporation, and the date on which the term of office of each expires:

OFFICERS	NAME	BUSINESS ADDRESS Number, Street, City or Town, State, Zip Code	EXPIRATION OF TERM
PRESIDENT			
TREASURER			
CLERK			
DIRECTORS	See Attached List		

I, the undersigned Cynthia L. Dore, being the Vice President of General Sales of the above-named corporation, in compliance with the General Laws, Chapter 181, hereby certify that the above information is true and correct as of the dates shown. IN WITNESS WHEREOF AND UNDER PENALTIES OF PERJURY, I hereto sign my name on this

15thday of July 2001

2001

Signature: Cynthia L. Dore Title: Vice President of General SalesContact Person: Cynthia L. Dore Contact Person Telephone: (412) 455-1512



The Commonwealth of Massachusetts
William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512
Telephone: (617) 727-9640

FEE: \$85.00

20107152

NOTE: PLEASE TYPE OR PRINT CLEARLY! INSTRUCTIONS ON OTHER SIDE.

MASSACHUSETTS FOREIGN CORPORATION ANNUAL REPORT

Federal Identification No. 75-27108001. The exact name of the corporation is: Optical Switch Corporation2. The corporation is organized under the laws of: Texas3. Location of its principal office is: 930 E Campbell Rd. (number and street)

<u>Richardson</u>	<u>TX</u>	<u>75081</u>
(city or town)	(state)	(zip)

4. The location of its Massachusetts office, if any: 65 Wiggins Ave. (number and street)

<u>Bedford</u>	<u>MA</u>	<u>01730</u>
(city or town)	(state)	(zip)

5. Name and address of the Resident Agent is: CT Corporation System (name)

<u>101 Federal Street</u>	<u>Boston</u>	<u>MA</u>	<u>02110</u>
(number and street)	(city or town)	(state)	(zip)

6. Date of the end of the last fiscal year was: December 30 2001 (month) (day) (year)7. Check here if the corporation stock is publicly traded:

8. The capital stock of each class as of the end of its last fiscal year was:

CLASS OF STOCK	PAR VALUE PER SHARE STATE IF NO PAR	TOTAL AUTHORIZED BY ARTICLES OF ORGANIZATION OR AMENDMENTS		TOTAL ISSUED AND OUTSTANDING
		Number of Shares	Total Par Value	
COMMON:	\$.0001	100,000,000	\$10,000.00	7,625,710
PREFERRED:	A \$.0001	8,500,000	850.00	8,382,866
	B \$.0001	2,434,330	\$243.43	2,373,792

9. State the names and addresses of the officers specified below and of all the directors of the corporation, and the date on which the term of office of each expires:

OFFICERS	NAME	BUSINESS ADDRESS Number, Street, City or Town, State, Zip Code	EXPIRATION OF TERM
PRESIDENT TREASURER CLERK DIRECTORS	See attached list		

I, the undersigned William A. Roemer, being the Secretary of the above-named corporation, in compliance with the General Laws, Chapter 181, hereby certify that the above information is true and correct as of the dates shown. IN WITNESS WHEREOF AND UNDER PENALTIES OF PERJURY, I hereto sign my name on this 28th day of March, 2002.

Signature: William A. Roemer Title: SecretaryContact Person: Sonia A.S. Abbott Contact Person Telephone #: 469-330-1522

Attachment to Massachusetts Foreign Corporation Annual ReportOFFICERS

9.	<u>NAME</u>	<u>BUSINESS ADDRESS</u>
	William K. Woodruff President/Chairman/CEO	Optical Switch Corporation 930 E. Campbell Rd. Richardson, TX 75081
	William A. Roever Secretary	Optical Switch Corporation 930 E. Campbell Rd. Richardson, TX 75081

DIRECTORS

<u>NAME</u>	<u>BUSINESS ADDRESS</u>
William K. Woodruff	Optical Switch Corporation 930 E. Campbell Rd. Richardson, TX 75081
William A. Roever	Optical Switch Corporation 930 E. Campbell Rd. Richardson, TX 75081
Ronald D. Pedersen	Optical Switch Corporation 930 E. Campbell Rd. Richardson, TX 75081
Don Navarro	Navarro Management Partners 5646 Milton St. Suite 717 Dallas, TX 75206